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Prospects for Nationalised Transport

IF the hopes of the Minister of Transport & Civil Aviation, Mr. Alan Lennox-Boyd, are fulfilled, and the problems of nationalised transport discussed in the new session of Parliament objectively and in a non-party spirit, there are prospects of the British Transport Commission being left to work out its own salvation, including the scheme for reorganisation of the railways under the Transport Act, 1953, with a minimum of political interference. The Minister voiced some of his hopes at the Institute of Transport Anniversary Luncheon earlier this week, of which a short account is given elsewhere in this issue. The absence of reference in his speech to further Government plans for the railways or to problems affecting railways and other forms of transport, as also in the Queen's speech on the opening of Parliament the same day, seems to mean that further action now is left to the Commission under the Act, which gives fairly wide scope in plans for the future, that is, mainly in drawing up the railway reorganisation scheme; the latter, it is to be hoped, will in turn give the railways themselves additional freedom to manage their own affairs. Mr. Lennox-Boyd stressed the opportunity now given to the Commission, and expressed great faith in the future of the railways and of other forms of transport concurrently with the development of air transport. The present interim organisation of nationalised transport, he pointed out, is only to be regarded as such. Even so, there are immediate questions to be settled under the interim organisation, which require the presence of the new Chairman of the Commission, General Sir Brian Robertson. The reference by the Minister in very general terms to the possibility of a partnership between the railways and air undertakings leads to hopes of implementation of the prewar policy of the Conservative Party: some progress in this direction had been made before nationalisation of the railways, which removed the railway-owned air services from railway control. This presumably is a matter which will be considered by the present Government after the Commission has submitted its proposals for railway reorganisation.

Indian Locomotive Orders

INDIA has ordered 400 steam locomotives from Germany, Austria, and Japan, to be delivered by March 31, 1956. Although names of builders are not given in the announcement from New Delhi, an order for 150 "YP" class is understood to have gone to Krauss Maffei, A.G., Munich, and that placed in Japan is given as being for 75 locomotives. The rates quoted by those countries are stated to be below those which Britain, Canada, and the United States were able to offer. The report adds that India has planned to acquire in all 750 locomotives in the two years beginning March 31, 1954, and hopes to obtain the balance of 350 through aid programmes, including the Colombo Plan. The 1954-55 foreign procurement programme of the Indian Railways, which was set forth in our June 19 issue, called for tenders for 120 broad-gauge, 110 metre-gauge and 10 narrow-gauge locomotives; the types scheduled included 100 "WG" class (2-8-2 broad-gauge goods) and 100 "YP" class (4-6-2 metre-gauge passenger). Thus the total of 240 has apparently been much increased.

The Price Factor

THAT the statement by Mr. P. C. Bhattacharyya, Financial Commissioner, Indian Railway Board, should give price as the determining factor in the placing of these contracts is somewhat surprising. We understand that German and Japanese prices, largely because of the rate of the currencies in these countries, have hitherto not compared favourably with those quoted by British builders. The Indian Railways may have found that, with expanding traffic and locomotive maintenance difficulties, a quicker delivery of the 400 locomotives is needed than can be quoted by British firms, which already have full order books. Terms of credit offered in Germany, Austria, and Japan also may have been more attractive than what is feasible in Britain. The Indian Government may, on the other hand, have been prompted by political motives. German and Japanese steam locomotive manufacturers are no strangers to India and Pakistan but we believe that this will be the first instance of Austrian participation. The orders placed in any case are a challenge to British manufacturers and a warning of the stiff competition for what has been a traditional market for British exports.

The Personal Touch

IN the month during which Mr. John Elliot has functioned as Chairman of the London Transport Executive he has already applied his well-known practice of "getting down to the men on the job." He has been out on the road almost daily, observing the working of London Transport from the viewpoint of the public. Unannounced, he is travelling by bus and tube on key routes and in rush periods. Queues have been joined and studied. He has visited garages in the early hours to see buses being prepared for the morning rush-hour. The overhaul system and a new underground construction project have been inspected and country districts have not been neglected. Nocturnal visits have been made to tube tunnels to meet maintenance staff. His future programme covers over 40 inspections. Mr. Elliot is continuing a policy widely

practised with success in pre-nationalisation days. One of the advantages of the company system was that directors and senior officials of transport concerns were constantly passing about the railways and bus systems as members of the public. During the existence of the Railway Executive there was a tendency for the Executive to move as an official body, giving due warning of its approach. V.I.P. expeditions, announced beforehand, cannot have the same informative value as the procedure being adopted by Mr. Elliot.

Increased Foreign Travel Currency Allowance

THE immediate effect of the increase in the foreign travel currency allowance from £40 to £50 last Sunday seems as likely to be an increase in the sums spent on individual winter sports holidays as a rise in the number of winter sports bookings, though some increase in travel to the Riviera and other winter climatic resorts is possible. The effect on the class of railway travel from this country may not be considerable, as fares and meals en route are over and above the basic allowance. Next year there may be a sharp rise in bookings to the Riviera and places farther afield where the amount available for spending by British tourists recently has not justified the money and time spent on travel thither. British Railways shipping services conveying motorcars to the Continent are likely to carry record traffics if these are not concentrated on the peak travel period. This consideration applies also to travel generally to Denmark, Norway, and Sweden, for which any reasonable amount of currency is allowed. Pressure on North Sea shipping and air services to these countries during the summer season may induce many to travel by the comfortable and convenient railway routes to Scandinavia via the Hook of Holland and Ostend.

Decline in Canadian National Traffic

THE September results of the Canadian National Railways reflect a general reduction in traffic volume which has been evident since July. Although operating revenue, $59,797,000, was $2,207,000 above that of September last year, expenses were up by no less than $5,181,000, to $55,892,000. The result is a decrease of $2,974,000 in net revenue. Because of reduced traffic, rate increases which have taken effect this year have not yielded as much new revenue as had been expected, and not enough to cover heavier expenses resulting principally from wage increases. It may be remembered in this connection that Mr. Donald Gordon, Chairman & President of the C.N.R., said earlier this year that 56 per cent of the operating costs of the system were represented by the payroll. The C.N.R. aggregate figures for the first nine months of the year show a drop in net revenue of $5,161,000 from last year's figures for the comparable period—$23,991,000 against $29,152,000. The company is doubtful whether the ground which has been lost can be recovered by the end of the year.

European Summer Passenger Services, 1954

BECAUSE of the accelerations already embodied in last summer's timetables on most European railways, the European Timetable & Through Carriage Conference held in Athens on October 7-17 could not bring about any revolutionary improvement in the 1954 summer passenger services. An account of the decisions of the conference as they affect British Railways cross-Channel and North Sea shipping services is given elsewhere in this issue. Important innovations are a service between Boulogne and South Germany connecting with the summer service between Folkestone and Boulogne, and the "Kärnten Express," a relief to the "Tauern Express" between Ostend and South Germany, Austria, and beyond; both these new services are designed to provide for the growing traffic between Britain and those regions. Advantage has been taken of the new Grossenbrode-Gedser route between Germany and Copenhagen to improve Anglo-Scandinavian services via the Hook of Holland. The British delegation played an important part in ensuring better punctuality next summer by instigating retiming of certain trains connecting with British Railways' and associated undertakings' steamers. Delegates were entertained by the Hellenic State Railways and public authorities with the customary warm Greek hospitality; and various railway commercial questions also were discussed.

New Construction in Uganda

THE progress made by the East African Railways & Harbours since they came into being in May, 1948, is the theme of an illustrated booklet which was issued by the Administration for the recent Royal Agricultural Society Show in Nairobi. One of the most interesting developments described is the large-scale new works. Two important construction projects are in hand, the Western Uganda extension, and the Southern Province line in Tanganyika. The first section of the Western Uganda extension from Kampala to Mityana, 45 miles, was opened to traffic on August 1. Work is going ahead on the final stage of this line, which will take it to Kasese, in the Ruwenzori foothills, and the building is described elsewhere in this issue. The line is primarily intended to develop a mineral area, but is also expected to develop agriculture in Western Uganda. It may even form part of a new international route, as a short extension would bring it to a pierhead on Lake George, whence a tug and lighter service would operate to Belgian Congo ports on nearby Lake Edward.

Rhodesian Development

SO great has been the rate of development of Southern and Northern Rhodesia, particularly since the war, that the railways have found it hard to meet the ever-growing demand for transport. Nevertheless, these calls are being satisfied to a large extent and a large-scale programme of new equipment and new works is being carried out, as is well summarised in a booklet recently produced by Rhodesian Railways. It shows that estimated capital expenditure up to March, 1956, is some £27,000,000, which will give a grand total by that date of about £77,000,000. There are 84 locomotives, 1,398 wagons and 37 coaches on order or in course of delivery. The locomotives include 23 2,000-h.p. diesel-electrics being built by English Electric for main-line haulage over the difficult Salisbury-Umtali section. The Rhodesia Railways shops, which are turning out buffet and restaurant cars, and service vehicles, are constructing ten locomotives, the first to be built in Rhodesia. There are today 307 locomotives in service, of which 125 are Beyer-Garratts, an increase of 43 per cent since 1947. The wagon stock has increased by not less than 87 per cent in the same period and now totals 7,795.

Encouraging Palletisation

THE abolition by the British Transport Commission of conveyance charges on owners' pallets, of which some details are given on another page, shows the readiness of the Commission to take active steps to encourage palletisation of goods by consignors, at present in its infancy. British Railways and British Road Services under the auspices of the Commission have devised, provided, and demonstrated to transport users various types of specialised equipment for handling and transporting palletised freight, which have been described in this journal from time to time. In addition British Railways themselves use pallets for moving goods within 39 depots, with plans authorised or under consideration at 35 other stations. Palletisation for internal movements also is in force at some installations of the fighting services, which are active in experimenting with the matter. One obstacle to extension of this convenient and economical form of transport of door-to-door traffic is the size of packages, which presents great difficulties in relation to storage space, though agreement on this question between the larger firms consigning by railway and nationalised road haulage may well be only a matter of time.

Packed Meals

ONE of the increasing number of good reports on the Hotels & Catering Services of the British Transport Commission speaks of the courtesy and excellent service rendered recently by the management at one of the London termini in the case of an order for packed luncheons. The passengers' reserved seat numbers were asked for, and two cartons made up partly to suit individual tastes delivered to the compartment. These in this instance were 3s. 6d. cartons, and included a large ham-sandwich, sausage-roll, cheese, roll and butter, salad, sweets and fruit. By all accounts the packed meals at other prices, and the tray meals and Compakt meal boxes containing a complete cold meal for parties, are giving equal satisfaction. Many passengers nowadays who do not need or cannot afford *table d'hôte* meals in restaurant cars have been forming the habit of bringing their own sandwich meals despite the increasing number of buffet and cafeteria cars; the good quality and moderate prices of the packed meals supplied by the Hotels & Catering Services deserve wider publicity. The refreshment services on British Railways have long been the subject of hostile criticism and often of sweeping generalisations. In the matter of packed meals they offer a facility as good and moderately priced as on any railway in the world.

Mr. H. Adams Clarke

MR. H. ADAMS CLARKE, Chief Officer (Staff & Establishment) at the British Transport Commission, has decided to retire from the railway service on November 20. This decision has been received by all his colleagues (headquarters and regional) with great regret. He was born in Dublin and entered the Audit Department, Paddington, of the former Great Western Railway in 1907. Then after experience in the Chief Engineer's and Divisional Superintendent's offices he came to his main work on the staff side of the business. In 1921 he was head of the staff section of the General Manager's office, Staff Assistant to General Manager in 1936, and Chief Staff & Establishment Officer in 1941. The development of the G.W. Staff Association and the ambulance movement were a part of his responsibility as an officer, and he brought to this a steadfast enthusiasm which could only spring from a genuine concern for the welfare of his fellow railwaymen. He was appointed Chief Officer (Staff & Establishment) at the Railway Executive in 1948.

Mr. Adams Clarke's connection with staff matters over such a long period means that he has been concerned with the making of the Agreements and Negotiating Machinery, of which he has an immense and detailed knowledge. But this alone would not account for the great respect and esteem in which he is held in the railway service. It is for his qualities as a man that he is held in such high regard. His reticence and retiring disposition have to some extent hidden his fine qualities of character and mind. Staff work in any organisation is never easy or popular; it is rare that there is a case to be dealt with in which everyone is completely satisfied. But when a staff man has earned a reputation for fairness, generosity (within the limits allowed), ability and close knowledge of his subject, he is generally respected and esteemed personally. All this is true in a high degree of Mr. Adams Clarke. In the last six difficult years, particularly, he has contributed a great deal towards setting up the new staff arrangements for British Railways as a whole, and although his work is by no means completed (indeed staff work never is), he can retire from the service with a quiet mind of a job well done. It is a great thing when a staff officer can be consulted by a colleague on some matter to do with business and know with certainty that he will always be received kindly and with understanding and that a highly-trained and able mind will be willingly turned on to the problem. He can be sure that even if there is no solution of the particular problem he will receive good counsel and wise advice.

Two tributes to Mr. Adams Clarke may be quoted. Mr. David Blee writes of him that "his command of speech and of the written word have enabled him both to settle and to advise others on the settlement of disputes, by his gift of careful drafting and of his habit of looking for the bridge to span the gap, without involving either party in a departure from the fundamental principles." Mr. W. P. Allen records that: "Having known Mr. Adams Clarke for many years, first when I was the General Secretary of a railway trade union and then as a Member of Railway Executive, I can say without hesitation that he has endeared himself to all by his kindness of manner, his sincerity and his honesty of purpose. His staff work in the railway industry has been of the highest quality and has earned for him the respect and regard of all who know him."

Transport Training

TO attract, train, and produce at each stage of railway management a salaried staff of the highest standards of efficiency and keenness is more essential than ever in the new competitive era into which we are moving. In putting forward this requirement in his Presidential Address to the Railway Students' Association on October 28, Mr. David Blee, Chief of Commercial Services, British Transport Commission, who called his paper "Education for Transport," said he believed that there was an awareness that a radical reform of methods of work and of the conditions of recruitment and preferment of railway staff was overdue, and with it a re-examination and reassessment of the educational background and opportunities for them.

Although some good candidates are coming forward, it may be enquired whether the schools and universities are sending their best products to the railway. One reason may be a failure of the educational system adequately to recognise and provide for the study of transport on a plane producing graduateship. Candidates of too high an average age for key posts are presenting themselves; a recent vacancy for an assistant district commercial superintendent's post produced candidates of ages between 54 and 59. Ability ought to be the emphasis rather than seniority when a promotion is under consideration. The objective should be to produce the fully-qualified stationmaster, yardmaster or goods agent in the 25-30 age group, and the district officer in the 30-35 group.

Just as there is a need for management to re-examine its methods, so should those responsible for educating the younger man in transport do likewise. Over the years, the railways have established a departmental form of organisation, and within each department a whole series of specialised parts is comprised, so that the trend is towards specialisation rather than a grasp of transport as a whole. The Institute of Transport had done great work both for the younger transport man and the industry, said Mr. Blee, and he advocated the recognition of the Institute examination standards as a qualification prerequisite to advancement into the junior managerial grades of the industry. He referred appreciatively also to the transport studies directed by the London School of Economics, and enumerated the ways in which its work concerned the transport industry. The school is unique among our universities in that in Part II of the B.Sc. (Econ.) a student may choose to take one of his five papers in the History and Economics of Transport. The industry might offer scholarships or leave with pay to a limited number of suitable members of the staff to enable them to spend the three years necessary to obtain a B.Sc. (Econ.) degree as a day student.

Nevertheless there is no ready-made formula for educating the ideal transport man. Some succeed because of their education, others in spite of it. As the objectives of management and educationalist are so much in common, there is room for an even closer knitting of their ideas, in the evolution of the right and fully-qualified minds and personalities to grapple with the immense problems before the transport industry over the next 10, 20, and 30 years.

An essential part of education for transport lies in "experience"—not something to be measured in terms of years, but in the capacity of the person for application and assimilating, and his gift for transmuting for everyday purposes his acquired knowledge. The young man should resist the tendency to over-specialise and should cultivate the faculty for thinking ahead on well-established bases. In the final abstract and at the end of all the training, the things which really matter in a transport career are the capability for leadership and decision, and a dispassionate sense of judgment.

In transport management Mr. Blee's view was that there was room, as a deliberate policy, for the exchange of transport personnel, both amongst branches of the transport industry itself and with industrial undertakings. Many instances might be quoted where, with a little more knowledge of the real trend or need of an industry or traffic, beneficial changes could have been made in the method of transport used.

No other industry has quite so vital a bearing on the well-being of peoples, has so many problems and therefore offers so many opportunities, and depends so much on a thorough understanding of everybody else's problems, as transport. Transport is a study which can, does, and should fire the imagination of the young, and sustain the interest every day and every year. Those in transport are perhaps over prone to self-criticism, but those outside it should not be deluded by that into feeling that this implies any falling below the highest standards of service. It is surely the task of present management to ensure that, long after their own time in the industry is completed, a well-trained personnel, using the best equipment and methods, will see that transport continues to serve efficiently the public, trade, and industry.

Indian Main-Line Passenger Services

THERE has been during the past year a steady all-round acceleration of long-distance passenger services both in the Republic of India and on the North Western Railway of Pakistan. The table below, compiled from *Indian Bradshaw*, gives some indication of certain fastest journey times between important centres. One feature is the increased number of *janata* (third class only) expresses; but this year none of these trains seems to give the fastest service between any two major cities. Apart from mail trains there has been considerable acceleration of secondary services, as, for instance, on the metre-gauge section of the former Nizam's State, now part of the Central Railway. It is not clear how far accelerations on the N.W.R. are the result of diesel haulage of principal expresses. Accelerations in main-line services, such as the "Pakistan Mail" between Karachi, Lahore, Rawalpindi, and Peshawar, were foreshadowed some months ago, but the current timetable does not show the running which might have been expected even from dieselisation of one or two services.

As the result of Partition, Northern Railway of India (formerly part of the N.W.R.) trains from the south and east terminate at Amritsar, and no through service is shown between that city and Lahore. Between Calcutta and Eastern Pakistan, however, a limited number of through trains are shown. Thus on the former broad-gauge main line of the Bengal Assam Railway, from Calcutta Sealdah via Ishurdi to Parbatipur and Siliguri, one through train is shown from Sealdah, which runs over what is now the Eastern Railway of India to Banpur, the Indian frontier station some 70 miles from Calcutta; here, and again at Darsana, the Pakistan frontier station, lengthy halts are shown in *Bradshaw*, and the train terminates at Chilhati, the northernmost station in Pakistan before this line re-enters Indian territory, some 300 miles from Calcutta. Passengers from Calcutta to Darjeeling and Assam travel by the new route via Manihari Ghat to Siliguri, and thence to Assam by the Assam Link line and Amingaon and Pandu, giving a much longer journey than prewar.

Some uncertainty as to distances is caused by failure to differentiate in *Indian Bradshaw* between the original main and the chord lines constructed later but used by many mail and express trains. Refreshment facilities in trains are not shown, but indications are that principal trains include refreshment cars serving Indian and European meals, as has long been the case with the "Grand Trunk Express." The amount of air-conditioned accommodation has much increased in the last year, as Indian-built stock has been delivered. Ordinary class accommodation was to have been abolished in the Republic of India on October 1. Before that there were in effect five classes: air conditioned, first, second, intermediate, and third, with a separate scale of fares for inter and third class travel by mail and express trains. Sleeping car services are advertised in the Northern Railway "Punjab Mails" between Lucknow and Amritsar, and for second class passengers only in Eastern Railway night trains between Howrah and Hazaribagh Road.

Railway	From	To	Miles	June, 1952 Hr.	June, 1952 Min.	September, 1953 Hr.	September, 1953 Min.	Remarks
India—								
Central, Northern, Eastern ...	Bombay Victoria ...	Calcutta Howrah ...	1,341	39	45	38	35	Via Jubbulpore. Air-conditioned coaches daily.
Central, Eastern	Bombay Victoria ...	Calcutta Howrah ...	1,223	37	45	37	20	Via Nagpur. Air-conditioned coaches twice weekly.
Western	Bombay Central ...	Delhi Junction ...	861	23	55	23	20	"Frontier Mail." Air-conditioned coaches daily.
Central, Southern	Bombay Victoria ...	Madras Central ...	794	28	45	28	25	—
Central	Bombay Victoria ...	Poona	119	2	55	3	00	"Deccan Queen." First and second class only.
Eastern, Northern	Calcutta Howrah ...	Lucknow	609	19	12	19	05	Air-conditioned coaches once weekly.
Eastern, Northern	Calcutta Howrah ...	Delhi Junction ...	895	25	30	25	05	Air-conditioned coaches daily.
Eastern, Southern	Calcutta Howrah ...	Madras Central ...	1,032	38	10	38	10	Air-conditioned coaches twice weekly.
Eastern, North Eastern ...	Calcutta Sealdah ...	Amingaon	680	36	20	36	30	Via Manihari Ghat and Assam Link Line.
Central, Southern	Delhi Junction ...	Madras Central ...	1,361	49	15	47	15	"Grand Trunk Express." Air-conditioned coaches once weekly.
Pakistan—								
North Western	Karachi City ...	Lahore Junction ...	755	24	25	21	45	"Pakistan Mail." Air-conditioned coaches.

An American Survey of British Transport

THE Bureau of Railway Economics, Association of American Railroads, has issued the fifth of a series of annual reviews analysing the results of nationalised transport in Great Britain. In a pamphlet of 32 pages the Bureau examines the 1952 report of the British Transport Commission and also discusses the important provisions of the Transport Act, 1953. The conclusion reached is that the general outlook for many phases of British nationalised transport is now more uncertain than at any time since 1948. All that can be said, with assurance, at this stage is that the new legislation will work substantial changes, though the final effects may not be felt for some years. Apart altogether from the Government's new transport policy, the Bureau thinks that a downward trend in the financial results of transport operations may go so far as to produce a net deficit in 1953.

For some time the U.S.A. railways have been pressing for more flexible and speedy methods of adjusting rates and charges than the existing system of regulation permits. The Bureau would therefore have satisfaction in noting that Section 23 of the Transport Act authorised the Commission to make a 10 per cent temporary increase in freight rates to offset rising costs, subject to early report to the Transport

Tribunal. A comparison between British and U.S.A. traffic performance in 1952 shows that the U.S.A. railways worked more than 24 times the ton-miles produced here, but only 1·6 times our passenger miles. British Railways carried more than twice as many passengers as the U.S.A. lines, but our journeys were much shorter. To American eyes our average revenue per passenger mile looks low at half the revenue per ton-mile. In the States the average charge for a passenger mile was 2·663 cents and for a ton-mile only 1·430 cents, a difference of 86 per cent.

Another contrast turns on the classification of commodities for statistical purposes. Coal, coke, and other minerals accounted for 82 per cent of the tons originating on our railways, whereas in the States all products of mines represented 54·4 per cent of total originating tons, the balance covering a great volume of agricultural produce, timber and pulpwood, and, above all, manufactured and miscellaneous goods.

The last item which we have space to cull from an interesting review of transport developments is a reference to the British Transport Commission's statement about parcels and "smalls" being no longer properly remunerative. The review remarks that parcels and small consignments of freight correspond in a general way to less-than-wagon-load traffic in the U.S.A., but does not comment on the decrease in that traffic to some 10,000,000 tons last year or say whether the average revenue of about $34 a ton yields a profit.

Railways to Help Australian Beef Production

AN important factor in the vital world-wide problem of providing sufficient food to meet rapidly-increasing population is the consideration of ways and means to produce more beef for export in Northern Australia. At present the stock-raising industry there has to contend with severe handicaps; chief among them is the fact that cattle raised in such areas as the Kimberley districts of north Western Australia have to start as two-year-olds to walk thence, across the Northern Territory, distances up to 1,500 miles and arrive in the Channel Country of Western Queensland as four-year-olds. After a year or 18 months of fattening in that country they are railed to the Pacific Coast for slaughter (and export) as six-year-olds. Such treks involve great losses, as cattle have first to be held until they are fit to undertake the journey, and afterwards have to recover from the fatigue and muscle-binding of constant marching over indifferent tracks. There is also considerable reduction in the carcase beef to bone and other wastes, and in years of drought mortality is devastating.

Road transport is suitable for cattle only up to about 200 miles, involving round trips of 400 for vehicles, at a cost of about £5 a head for this distance, the figure becoming uneconomic as distances extend and prohibitive except in years of drought. River and coast-wise water transport, though cheap, is very limited, and carriage by air is unlikely to prove feasible except from the most remote areas where rail and road transport are economically impossible and the stock routes are bad. Air transport of carcases from inland slaughter-houses has yet to be exhaustively tried.

The one promising solution of the problem is the extension of railways, mainly in a southeast—northwest direction. The late Sir Harold Clapp, formerly Commissioner of Railways in Victoria, definitely reported against the building of the 600-mile south—north extension of the Commonwealth system from Alice Springs via Newcastle Waters to link up with the existing line from Darwin, at Birdum, and this view now appears to be generally shared by all except some interests in South Australia. The most-favoured extension is from Dajarra—the present railhead of the Queensland Townsville—Cloncurry line and on the edge of the Channel Country—through Camooweal and Newcastle Waters to Birdum. This proposed line appears to provide the best means of transporting the livestock, especially when considered as an extension of the previously recommended lines to connect Bourke with Charleville, Quilpie with Windorah, and Windorah with Dajarra. Some doubts are expressed concerning the advisability of the latter as it would be costly to construct due to the broken country traversed. It would therefore not be economical for the carriage of Channel Country products alone, but as part of a direct through route from Sydney and Brisbane to Darwin its great advantages cannot be overlooked.

Not only will it pass through the very heart of the Channel Country but will directly link it up with the far northwest and also with both Townsville and Brisbane and New South Wales, the latter connections being particularly valuable in times of drought. A great reduction in stock losses will then be effected and the rapid and reliable carriage of animals should give inestimable impetus to the breeding industry and cause its manifold expansion.

It is true that this grandiose scheme would entail the construction of some 1,300 miles of new railway, probably of standard gauge, but its importance to world food production may be expected to enlist widespread financial assistance from overseas if that be needed. This new line has many other points to recommend it, such as the opening up of a wide belt of country 1,000 miles in length, and the provision of adequate general transport to and from the north. Of vital significance also is the fact that it will be a through line of communications of the utmost strategic importance as well as serving as an alternative route to the vulnerable coast railway running northwards from Sydney and Brisbane to Rockhampton and Townsville. Its many advantages therefore appeal not only to Australia but also to the British Commonwealth and to the Western Powers as a whole, ensuring their practical support.

Proposed new lines in Queensland and Northern Territory in relation to the Channel Country and existing railways

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of correspondents)

Closing of Railways in the Isle of Wight

October 26

SIR,—As a young man I was told that the Government granted railways their monopoly on condition that they provided services in sparsely populated parts of the country, even if they did not pay. Such losses would be met by the profits of more used services.

Under nationalisation we now hear that 1s. 3d. will have to be added to the rates in the Isle of Wight to take the displaced rail traffic by road, now that certain sections of the railway are to be closed because they are unprofitable.

Had the railways under private enterprise been allowed to disregard their charter in this way, it is probable that they would have had to pay the £87,000 required to build the necessary roads to replace the railways.

Yours faithfully,

OBSERVER

Overhead Contact Systems

October 20

SIR,—The article by Mr. J. C. Grant in your issue of October 2, makes the very sweeping statement that the flexional or inclined catenary construction is the type to be recommended for use with traction systems employing high voltage a.c. on the contact wire.

The inclined catenary system is not a new development, having been experimented with on many occasions. Some of the earliest trials were on the Lancaster-Morecambe-Heysham line during the 1914-18 war. As a result of operating experience this was subsequently reconverted to the polygonal system. The latest examples of its use are in France on parts of the Aix-les-Bains to La Roche-sur-Foron scheme and in the Belgian Congo on the Jadotville-Tenke scheme.

To obtain a clear idea of the relative merits of the polygonal and inclined catenary systems they must be examined in greater detail than was done by Mr. Grant.

The factors to be considered when calculating the shape of a catenary with polygonal construction are span length, dropper spacing, conductor tensions, and weight per unit length of conductors, clips, and so on. A straightforward calculation is used to produce tables of dropper lengths for the various span lengths for installation and maintenance purposes. These calculations are very much more involved with inclined catenary construction, in which the contact wire offset at the structure and the radius of curvature, and so on, have an effect on the dropper lengths in any particular span.

Further difficulties arise at transition spans between curved and tangent track and the construction becomes particularly complicated at crossovers and junctions. As each dropper, in the latter form of construction, is inclined at a variable angle from the vertical, each dropper clip must be carefully adjusted to maintain an untwisted contact wire.

It may be necessary to reduce the tension of the contact wire on heavy curves so as to prevent droppers from taking up too inclined a position with the danger of contact between the pantograph and dropper clips. This hazard exists on both tangent and curved track under normal running, as the contact wire cannot be lifted without a corresponding rotation of the droppers and dropper clips, thus the contact wire cannot be allowed to wear to the extent permissible with polygonal construction.

Similar conditions prevail in high winds in which inclined construction on curved track is inherently unstable and it is sometimes necessary to instal registration arms of considerable length which cannot be supported from the catenary as with polygonal construction. The weight of these arms and the tendency for the contact wire to lift excessively bring about an undesirable variation in the elasticity of the overhead system.

Inclined construction to a limited extent is self compensating. with regard to changes in length and tension due to change in temperature; but this feature in itself causes artificial grades in the contact wire and difficulty in regulating tensions. It is presumably for this reason that automatic tensioning has been used with inclined catenary construction on the Jadotville-Tenke electrification.

Current collection at speed can be equally satisfactory with a well designed polgonal catenary system as with the inclined catenary system; there is little doubt that if the choice of system is left to the engineer subsequently responsible for the maintenance of the equipment, the polygonal system would be adopted.

Yours faithfully,

C. E. ALLEN

474, Aigburth Road, Liverpool, 19

[Our correspondent records only part of the statement in the last paragraph of Mr. Grant's article. The qualifying clause which he omits reads: "in which the main emphasis is on the low cost and lightness of the (fixed) installations." This describes what is undoubtedly the main reason for adopting high voltage a.c. on the contact wire. Where low cost and lightness are the main aim, there is much to be said for the flexional system. Space limitations did not allow it to be pointed out in the article that the flexional system is suitable for routes in remote areas with many miles of single track with two-way working, and less so for suburban areas with a concentrated network of tracks and limited clearances.—ED., *R.G.*]

Hands off the Railways!

November 2

SIR,—I was much interested in the accounts in your issue of October 30 of Mr. Herbert Morrison's attack on Mr. K. W. C. Grand. May I say that all these long drawn-out troubles in traffic matters originated during Mr. Herbert Morrison's régime as Minister of Transport.

The first thing Mr. Morrison should have done was to order the pooling of privately-owned wagons, which the responsible traffic officers and stationmasters had been advocating for decades. It had been particularly provided for in the Ministry of Transport Act, and the three railway unions had only just recently announced that they anticipated "very heavy economies" from it.

About the same time Sir Felix Pole, General Manager of the G.W.R., had shown that 20-ton wagons secured an economy of 50 per cent in operating expenses, that they cost 50 per cent less than two 10-ton trucks, and that they filled ships with coal in half the time.

The chief traffic officers of the L.M.S.R. also had demonstrated that, with 12 of their newly-built 40-ton self-discharging wagons, 480 tons of coal could be unloaded by one man in a few minutes, compared with eight hours for 18 men to unload 48 ten-ton trucks.

All the principal traffic officers and many colliery companies then urged the general introduction of 40-ton wagons so as to reduce rates on coal and other minerals. But not a single one of either type of these wagons was afterwards built—at a time when Mr. Morrison should have jumped at this as the complete solution of our transport troubles, by ordering them in their thousands.

So someone ought to give a hint to Mr. Morrison and other "higher-up" novices to leave Mr. K. W. C. Grand alone, as he at least has acquired some little real practical experience in the operation of railways.

Yours faithfully,

E. R. B. ROBERTS

Eynesbury, St. Neots

THE SCRAP HEAP

Midland Railway Enterprise

Heysham Lake, which has recently been undergoing a survey of its shifting bed, is not a lake at all but a navigable sea-channel across Morecambe Bay from the Lune Deep to a point adjacent to the site chosen some 60 years ago by that " mammoth of enterprise " the Midland Railway for the construction of Heysham Harbour. This was a major undertaking and the original purchase of land in 1896 soon proved insufficient. The company, however, dashed the rising hopes of land speculators by extending in another direction, using the debris from the excavated basin to reclaim 350 acres from the sea.

The harbour works were massively constructed, in particular the breakwater whose foundations had to be sunk 75 feet, and the whole project took seven years to complete. Opened without formality at 11 p.m. on September 1, 1904, Heysham Harbour had cost the Midland more than £2,000,000, but, as *The Railway Magazine* observed at the time, " London to Londonderry over the property of one railway—for long a dream—is now an actuality."—*From "The Manchester Guardian."*

C.N.R. Mobile Museum

The Canadian National Railways have assembled a museum train, consisting of three locomotives and six coaches, all restored to original condition, which has been touring part of the system during the summer and will be brought out on future suitable occasions. The train is hauled by a 2-6-0 built in 1899; the other locomotives date from 1872 and 1894 respectively. The oldest of the passenger coaches was built by the Grand Trunk Railway in 1859 as a first class coach, the second is a composite passenger and baggage vehicle built in 1866 and in service in mixed trains in Alberta until recently, the third, equipped as an old-style dining car, dates from 1899, and the fourth, a sleeping car, was built in 1904. The two baggage cars of 1875 and 1877 which complete the train, and the composite referred to, contain exhibits of historical interest.

Not So Wrong Spelling

That the spelling " Gwendreath " (Scrap Heap, October 9) was used by the Burry Port & Gwendraeth Valley Railway itself is proved by a correspondent, who has sent us the original of a letter dated February 13, 1911, from the Engineer's Office, Burry Port, on official notepaper with the disputed spelling. He also points out that the G.W.R. employed this spelling in 1926 in a handbook issued to the staff. Reference to " Gwendreath " in official documents was made by another correspondent in a letter published in our issue of October 23.

A Century of Railway Service

The Temple family has given a succession of accountants to railways in Newcastle for the past 100 years. In December, 1853, Mr. George Temple began work in the office of the Accountant of the North Eastern Railway at Newcastle-upon-Tyne. He retired in 1907 aged 73, having been a station auditor for 35 years. His son, Mr. R. H. Temple, worked in the department from 1871 to 1910.

On October 25 last his granddaughter, Miss Vera Temple, retired after 42 years' service in the same office of the N.E.R., L.N.E.R., and N.E. Region. Her brothers also worked in the department, Mr. G. N. Temple from 1899 until his death in 1937, and Mr. R. H. Temple, Jnr., from 1902 till his retirement in 1947. This record of 100 years' unbroken service in one department is being continued into the fourth generation by Mr. G. N. Temple's daughter, Miss Kathleen Temple, who joined the Accountant's staff in 1937.

A 4-4-0 locomotive of 1872 and a saddle-tank shunter of 1894 with old coaches forming the museum train of the Canadian National Railways

Royal Breakfast Container

Photo] [*C. R. L. Coles*

Container bearing the crest of the Great North of Scotland Railway, formerly used at Aberdeen for serving breakfast to travellers in Royal Trains, and included in the Royal Journeys Exhibition now touring the country

Fast One

A railway crossing keeper chased an express on his motorcycle at 70 m.p.h. near Arras and threw a warning detonator under the wheels of the locomotive. The train pulled up 500 yd. from a lorry which had broken down on his crossing.

All is not Gold . . .

Very soon after the gorgeous refreshment rooms at Swindon were opened, the public began to discover that their magnificence was sadly out of place. To swallow greasy pepper-water under the name of soup at 1s. a basin, or stale sandwiches and Banbury cakes at 6d. each, or to partake of a lunch of lank, hairy fowls and rank ham in ten minutes at a charge of 2s. 6d., was not, in their opinion, compensated for by the gaudy frescoes, enormous mirrors, cotton velvet couches, and gorgeous Birmingham plate. . . .

The directors of the Great Western were appealed to. They admitted the grievance, . . . " but," said they, " we cannot help it; we have unguardedly given a lease of the rooms to a foolish fellow, who cannot be made to see that it is his interest to serve the public well; and he resists our attempts to buy him out. All we can do now is to express our regret at having been thus outwitted, and to promise that, as soon as we can get rid of him, the interests of our passengers shall be better cared for."

I have myself heard this apology made for the Swindon refreshment rooms half-a-dozen times by half-a-dozen directors; and I confess I was at one time simple enough to believe that they were sincere.—*From a letter to " The Times," September,* 1853.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

NEW ZEALAND

Conversion of Passenger Stock

Two more wartime ambulance coaches have been renovated throughout and furnished with four-position reclining seats. There are now six of these vehicles in service in the North Island. All conform to the general design of the standard 56-ft. steel panelled main line stock, and are equipped with roller bearings. The last to be converted in the 1952-53 financial year was experimentally equipped with fluorescent ceiling lights and individually controlled filament wall lights. The fluorescent tubes are of the normal 230 V. industrial type placed end to end in a longitudinal glass housing of simple but neat design. Power is supplied by a rotary inverter placed beneath the body. The improved lighting has evoked favourable comment from passengers, and there can be little doubt that this coach, with its attractive interior furnishings, has proved exceptionally popular.

TASMANIA

Workers' Trains

There has been an increase in the number of passengers using the workers' trains to large industrial establishments. Regular services, for the benefit of workers, operate from Hobart to the Cadbury-Fry-Pascall factory at Claremont, the electrolytic zinc works at Risdon and the newsprint mills at Boyer. In the Northern part of the State, workers are provided with daily travel from adjoining centres to the Goliath Portland Cement works at Railton, and the Australian Pulp & Paper Mills at Burnie. Workers' weekly tickets are issued at very low rates and were it not for the service provided by the railways, some of these industrial undertakings would find considerable difficulty in meeting their labour requirements.

With increasing charges on trams and buses in the Hobart suburban area, there is a heavy demand on suburban rail services. Steady development in the industrial areas adjacent to the city shows that there will be a need to provide more frequent suburban services in the near future, and plans are in hand for the construction of improved rolling stock for this class of traffic.

INDIA

Track Relaying on Central Railway

During this year it is programmed to relay 300 miles of track. During the period from April 1 to August 15, a total of 61 miles has been relaid. With the monsoons over, relaying now is proceeding at full speed.

Trial of A.T.C.

A modern inductive system of automatic train control is on trial in the electrified section of the railway between Ghatkopar and Thana. Experiments with the axle-counting equipment similar to that used in Switzerland are also being conducted in connection with the introduction of automatic block system on sections laid with metal sleepers.

Interlocking on Central Railway

It has been decided to interlock the 245 non-interlocked stations of the Central Railway on a programmed basis. Work is at present in progress at 27 stations. Double-wire signalling is being adopted for the new interlocking, so as to reduce expenditure on maintenance staff and eliminate the possibility of signals displaying ambiguous aspects. At twelve of these stations on the Itarsi-Nagpur section, multiple-aspect upper-quadrant signalling is being provided.

A scheme for the extension of the automatic block system in the Bombay area from Byculla to Kalyan is well under way. Work is being carried out on the through lines between Byculla and Kurla, work on the suburban lines between Byculla and Kurla having been completed.

SUDAN

New Line to Roseires

Work has started on a new railway from Sennar through Singa to Roseires. This will develop the Fung district, provide a transport route of adequate capacity to the site of the proposed new dam above Roseires and enable the Blue Nile steamer service, which can operate only during part of the season, to be withdrawn. This branch will be some 150 miles long; of this about 40 miles have been completed.

EGYPT

Port Said Passenger Station Rebuilt

The new passenger station at Port Said has outer walls of artificial stone and marble. There are three main entrances: for first and second class, for third class and for official parties. The hall and exit doors adjoin the arrival platform. Telegraph, telephone, and post office services are available, and there are also a luggage office, and buffet and staff offices. The first floor includes offices and rest rooms for the staff. A clock tower, about 100 ft. high, adjoins the station. The platforms are covered and the whole station has fluorescent lighting.

State Railways Hospital

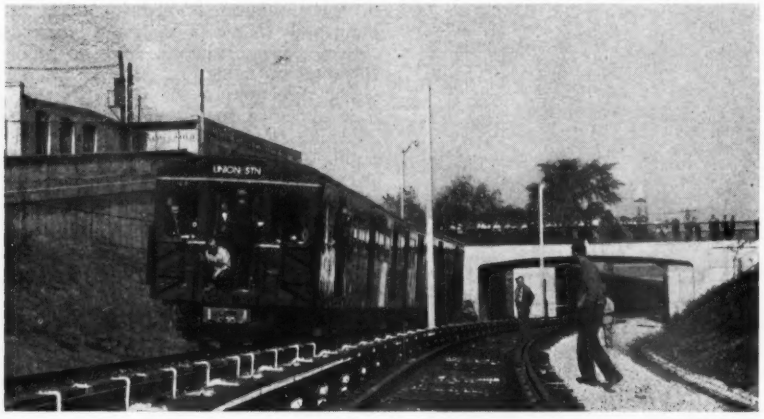
The State Railways have built a hospital with 200 beds, to be increased to 300 in future, near Cairo Station, comprising administrative block, wings for laboratory, dispensary, wards, operating theatres, X-ray rooms, and kitchen.

CANADA

Half-year Results

The Canadian railways had record gross revenues of $590,627,000 in the first half of the year, but their net income fell. Operating income dropped to $16,076,000, compared with $22,245,000 in the first half of 1952. The gross revenue compared with $576,853,000 in the same period of 1952. Operating expenses were $551,600,000 ($519,862,000).

British-built Coaches in Canada



Two-car train of underground stock built by Gloucester Railway Carriage & Wagon Co. Ltd. on trial run on the open section of the new Toronto Transportation Commission rapid transit line

The Canadian Pacific Railway, on whose results the Board of Transport Commissioners bases freight rates, had an operating income of $10,507,000, compared with $11,138,000. Gross earnings were $231,485,000. The Canadian National Railways had a deficit of $880,000 on its Canadian lines. This was accounted for largely by retroactive wage payments. It also included funds set aside for income tax, which the company began paying for the first time last year. The deficit compared with $3,819,000 operating income for the same period of 1952. Taking in the results of its United States lines, the C.N.R. had an operating income of $2,660,000 for the first half of the year.

ARGENTINA

New Cross-Country Service

A new one-class cross-country service between Córdoba, Mendoza and San Juan has been introduced by the General Mitre and General San Martín Railways jointly. The section between Córdoba (General Mitre Railway) and Villa Mercedes (General San Martín Railway) is covered by a three-coach Ganz diesel-mechanical set, equipped with a bar and having a seating capacity of 204. Between Villa Mercedes and San Juan, the express "El Cuyano" is used.

Kilometric Tourist Tickets

In accordance with a resolution of the Ministry of Transport, kilometric tourist tickets, available over all the Argentine railways, are now on sale at a unit price of 11 centavos per km. They are issued for 4,000 and 6,000 km. and are valid for 90 days from the date of issue. No person may use more than one ticket in the same year, nor may they be used twice over the same route.

UNITED STATES

New England Accelerations

With the help of its new Budd diesel-hydraulic railcars, the Boston & Maine Railroad introduced 26 additional trains, and accelerated 44 others, in its winter timetables, effective from September 27. The new railcars provide fast winter through service for the first time between Boston and Intervale (139½ miles), and Boston and White River Junction via Fitchburg, Keene and Bellow Falls (153 miles). Also the "Red Wing," through Boston-Montreal train is accelerated 1 hr. 50 min. northbound, leaving Boston at 11.30 instead of 9 p.m., and reaching Montreal at 9.10 instead of 8.30 a.m. In the reverse direction departure from Montreal is at 8.30 instead of 9.30 p.m., and arrival in Boston 6.45 instead of 8.20 a.m., a cut of 35 min.

Talgo Trains

At the recent exhibition of railway stock and equipment at Atlantic City, an exhibit that attracted considerable attention was a light-weight Talgo-type train, exhibited by the American Car & Foundry Company. The American design is similar in principle to the train of this type now operating over the Spanish National Railways, but the American train is more substantially built to meet the more severe operating conditions of North America.

Five U.S.A. railways, among them the Chesapeake & Ohio, of which the Chairman is Mr. R. R. Young, President of the Federation of Railway Progress, are stated to be considering the purchase of experimental trains of this type.

BELGIUM

Brussels Railway Museum

The railway museum in the Rue du Progrès adjoining the Gare du Nord now is open to the public from 10 a.m. to 5 p.m. on Sundays, Tuesdays, Wednesdays, Thursdays, and Saturdays.

JUGOSLAVIA

New Line to Oilfield

A new standard-gauge line, approximately nine miles long, is being built north-west of Vrsác, near the Roumanian frontier. It begins at Seleus, about 39 miles north of Kovin, a Danube port, and will run north-eastwards via Lokve to Jeremenovica. Seleus is a station on the standard-gauge Kovin-Alibunar-Jasa Tomic line from Kovin to the Roumanian frontier.

The new railway is intended in the first place to provide transport to the recently discovered oilfield near Jeremenovica, whose production had to cease for lack of transport.

Publications Received

North London Railway. By Michael Robbins. South Godstone, Surrey: The Oakwood Press. 7¼ in. × 5 in. 29 pp. Illustrated. Paper covers. Price 5s.—This is the fourth edition of a work first published in 1937, proof of the interest which the North London still arouses 45 years after it surrendered its independence to the L.N.W.R., which, however, as Mr. Robbins points out, had always dictated its "foreign policy." It is the fruit of further research and information contributed by correspondents to the author, and contains some new illustrations.

Railroad Engineering. By William W. Hay. Volume I. New York: John Wiley & Sons, Inc. London: Chapman & Hall Limited, 37, Essex Street, W.C.2. 9¼ in. × 6 in. 483 pp. Illustrated. Price 60s.—This monumental though handy volume reviews exhaustively the principles of railway location and relevant operating conditions, maintenance, and construction. It contains a wealth of scientific argument, calculations and diagrams in support of recognised practice and sound economic policy. Location is considered on the basis of the effect upon it of the nature of traffic to be handled, cost of operation, length of line, gradients, curvature, train-resistance and the tractive effort of steam locomotives; the latest practice and operating characteristics of diesel-electric and electric traction are also discussed. That most important subject, the provision of a stable formation for modern fast and heavy traffic, and its soil-mechanics aspects are carefully considered, as are also the allied problems of track-drainage and ballast. A brief review of track-work follows, mostly from the American point of view, and the latest practice in mechanical track-laying and surfacing is included. The volume is well produced and illustrated, and the diagrams are good; copious tables, formulæ and references add to its value.

Railway Research & Engineering News.—Sudbury, Middlesex: J. B. Tratsart Limited, 799, Harrow Road. Annual subscription £2 2s., including *Railway Research Index.* The first of this series of duplicated typescript monthly bulletins issued by the "Bureau Spoorwegdocumentatie" ("Institute for World Railroad Documentation"), Amsterdam, appeared in March, 1953. The bulletin is an abstract of current technical literature. Although considerable effort has been made to include current published work in many countries, much material available to railwaymen from their own systems' official sources and others such as the O.R.E. (Office de Recherches et d'Essais), Utrecht, necessarily is omitted; and space allows only of very concentrated digests. The *Railway Research Index,* a technical bibliography, is supplied free to subscribers to the bulletin.

Industrial Fluoroscopic Equipment.—Details of the Solus-Schall Limited 150-kV. ultra-fine focus unit for the inspection of light-alloy castings of up to 1½ in. wall thickness, inspection of welds and so on are given in an illustrated leaflet recently issued by the firm. The equipment includes a generator, viewing cabinet with fluorescent screen, and control trolley. Handwheels are provided to position the specimen table, which can be moved in relation to the X-ray tube according to the degree of magnification required. The turntable can be moved by hand in any direction or rotated at 2·5 r.p.m. by an electric motor; conveyor-belt loading can be incorporated in the design of the cabinet if required. The fluorescent screen measures 14 in. × 14 in.; the size of the illuminated field can be varied by means of a lead diaphragm so that areas of particular interest may be scrutinised. Complete protection for the operator is given.

Agriculture Fostered by U.S.A. Railway

Development of agriculture and forestry aided by the Illinois Central Railroad for over a century

THE management of the Illinois Central Railroad always has been alive to the possibilities of increasing traffic by fostering agricultural development in the area it serves. In 1851, the year after it received its charter, the company formed a Land & Immigration Bureau, which gradually increased its activities until, in 1907, it decided to establish an Agricultural Department of its own.

A year later, special trains, fitted out to tour the system, carried exhibits and literature to acquaint the public with the importance of and opportunities for such developments as the improvement of dairying, stock-breeding, mixed and general farming, and the institution of crop rotation, soil testing and boll-weevil control.

From small beginnings in 1865, the chemical analysis of soils has been studied and increased by the company's staff until now there is a soil-testing laboratory at Jackson and, for carrying out tests on the farmers' land, there are two mobile units. The company's agricultural agents also carry portable soil-testing equipment for spot-testing at any time; altogether, an annual average of 20,000 tests are made.

Assistance to Farmers

Thus the most suitable use is made of the various kinds of land, which is improved by sponsored drainage and conservation crops; dairy herds have also been greatly improved. It is claimed that thousands of impoverished farms have been revitalised and restocked and their productive capacities increased through the initiative of the railway management.

The company also provides and pays for expert butter-makers in new creameries with 500 or more productive cows, and, to improve the quality of dairy cattle, makes available to farmers pure-bred sires free of cost. Furthermore, since 1944, the I.C.RR. Agricultural Department has been promoting artificial insemination techniques with revolutionary results.

First Refrigerator Service

As long ago as 1866 the I.C.RR. inaugurated the first refrigerator service in America to enable fresh produce from the rich lands it serves and has helped to develop to reach the cities in good condition.

It was also the Illinois Central that, in 1927, ran the first train in the U.S.A. to encourage the growing of the soya bean, now the third largest grain crop in the country. For the same reason, the company imported thousands of pounds of soya seed for distribution to interested farmers. Since then, many thousands of acres of idle cotton fields have been planted with soya and, to cater for the great industry that has sprung up, widespread systems of elevators and processing plants have come into being; in consequence the I.C.RR. carries more soya beans and their products than any other railway in the U.S.A.

Forestry Development

An allied activity of the company is the encouragement of forestry development. This has become so important that the department is now known as the Agriculture & Forestry Department. Forestry staff was first engaged in 1945, and is now larger than on any other American railway. Its principal aim is to improve the Mid-West timber resources generally. As a valuable sideline, the railway forestry agents invented and built a mechanical tree-planter. Some 150 of these machines are now in use, and they have stimulated the planting of thousands of acres of cut-over timber land, previously worthless and producing no income to their owners. Four university forestry schools or colleges have these planters for instructional purposes.

The Department is at present conducting experiments with supplemental irrigation on farms throughout the southern part of the area served by the railway. Results so far show that in a dry summer this system will greatly improve agricultural production in the South with resulting increased prosperity for both farmers and railway.

Tunnel under North Sea Canal, Holland

Cut-and-cover construction being carried out

AT Velsen, near Ymuiden, close to the western end of the North Sea Canal, the Haarlem—Alkmaar line of the Netherlands Railways crosses the canal on a swing bridge which must be opened frequently for shipping and would have had to be rebuilt in connection with the proposed widening of the canal. At the same time, the rapidly increasing road traffic to and from parts of North Holland Province north of the canal can no longer be handled satisfactorily by the ferry at Velsen.

It was decided before the war to construct a railway tunnel and parallel road tunnel under the canal. Work was begun in 1941, but ceased after 18 months on German orders, and was not resumed until 1952. The scheme will take another five years to complete and is one of the largest public works being carried out in the Netherlands. The construction is planned and supervised by the Netherlands Waterways Administration (*Rijkswaterstaat*).

After examining three means of tunnel construction; (sinking precast tunnel sections, driving tubes by means of shields, and construction in open cut) a committee decided in favour of the third method which permitted the simultaneous construction of a railway and road tunnel in a single cutting. This decision also affected the alignment of the tunnel which is crossed by the canal on the skew at a point ¼-mile upstream of the swing bridge, where the approach sections of the new tunnel railway can be linked with the existing line by comparatively easy curves.

On the south, the new double-track railway will leave the existing line at a new station, Duin en Kruidberg. From here a shuttle service will be maintained on the existing line as far as Velsen-Ymuiden Oost, just south of the bridge, to serve the existing branch to Ymuiden. On the north, the tracks emerging from the tunnel will rejoin the Alkmaar line at Beverwijk, where a new station is to be constructed.

The railway tunnel will be over two miles long, including the curved and partly open ramped approaches. The rail level at the deepest point, below the centre of the canal, will be about 76 ft. below sea level. The approaches are graded at 1 in 60.

As the tunnel will be used by electric trains only, no provision will be made for forced ventilation, but there will be ventilation shafts emerging on each bank of the canal. Five pumps (one at each tunnel mouth, one at each ventilation shaft, and one at the deepest point) will drain the tunnel.

The concrete structure of the railway tunnel is 40 ft. wide and 23 ft. high. Inside the heavy concrete walls, there is a clear width of 9·2 m. (30 ft. 2 in.) and a clear height above rail level of 5·5 m. (18 ft.), ample for a double-track railway with electric overhead equipment and two inspection paths on either side, above the cable ducts.

The parallel road tunnel structure is just over 100 ft. wide and includes, in addition to the two main tunnels for the dual carriageways 7 m. (23 ft.) wide, three small tunnels for the forced air

ventilation and accommodate the cable ducts. The approaches of the road tunnel have gradients of 1 in 28·5 so that the whole structure, including ramps, is only just over a mile long.

Phasing of Work

The open trench in which the two tunnels are constructed has a width of about 500 ft. and depth of 22 ft. It is protected by steel sheet piling and an extensive system of pumps at three levels. The work is proceeding in three phases. During the present first phase, the two southern halves of the railway and road tunnels are built on dry land. During the second phase, due to start early in 1955, the canal will be widened and shipping diverted to the new channel along the new south bank. During the third phase. finally, the northern half of the canal will be closed by cofferdams so that the northern halves of the two tunnels also can be constructed in an open trench.

As navigation must not be interrupted at any time, these phases must be consecutive so that it will not be before 1958, at the earliest, that the two tunnels can be taken into operation.

Palletisation on the German Federal Railway

Experimental application to "smalls" and parcels traffic internally on the railway

(*By a Correspondent*)

Box pallet with partly open edge being conveyed by fork lift truck

THE rising cost of handling freight traffic led the German Federal Railway to consider palletisation as an alternative to the methods generally employed for "smalls" and parcels traffic; the hand barrow and stillage, the latter moved by a foot-operated lift truck, with, in large depots, platform trucks hauled by electric trucks of various types, also small, wheeled containers for door-to-door smalls traffic.

As the result of study of methods used in other countries, notably in Sweden and Holland, the Bundesbahn has experimented with palletisation to the extent of converting the Herford, Bebra, and Heilbronn goods depots to pallet loading. It was planned recently to convert depots at a further 12 places. The increasing adoption of palleting loading by industrial concerns shows the use of this method to be successful in achieving economies.

Bundesbahn Pallets

Dimensions of the pallets are 1,000 mm. × 1,000 mm. This size was approved with reference to the interior dimensions of wagons, with plenty of room for manœuvring inside the wagon.

A high proportion of smalls and parcels, possibly 10 per cent, is despatched in containers. As the sphere of the small container and the pallet overlap, the increasing employment of pallets might affect the proportion of traffic consigned in containers.

About 10 per cent of traffic cannot be palletised because part of the journey is in *kurswagen* ("smalls" wagon serving several small stations) or by road. Therefore the use of handbarrows will not be discontinued as there will be a considerable share of traffic left for this type of handling. The introduction of the palletisation therefore creates a mixed system. The ratio of freight handled with handbarrows is different for local or transfer depots; thus for Bebra transfer shed it is 45-50 per cent, though the proportion varies.

Both flat and box pallets are used. Procurement costs for both types differ greatly. As the pallets can be loaded in tiers there results for the most favourable case for loading in tiers an optimum ratio of box and flat pallets of 50:50. Experiences at Bebra show a greater proportion of box pallets to be required, and a ratio of 60:40 seems at present to be the optimum.

Tare Weight of Pallets

It is calculated by the Federal Railway that if 350 kg. is estimated to be the average weight of the load of a pallet, the tare of a box pallet, being 70 kg., would be 17 per cent of the gross weight, and the tare of a flat pallet, 30 kg., to 8 per cent of the gross weight. Practice shows less favourable figures, as at Bebra the average weight is 280 kg. only. When loaded in tiers the weight of the load of box pallets will drop by one-third, as loads in these pallets are heaped above the upper edges. Research so far shows that the tare weight of pallets, especially of box ones, is too high.

One side of Bundesbahn box pallets is partly open, to facilitate loading. This is at the expense of protection for the loads, and it appears doubtful whether the present solution which meets both requirements only in parts, is final. It might be possible to fit removable sides.

Fork Lift Trucks

For the movements on the platform fork lift trucks are used and foot-operated lift trucks. As the advantage of the fork lift trucks is their speed, they are use for longer distances, provided the volume of work justifies their usage. This does not exclude the use of the foot-operated lift trucks in the same depot.

At Bebra, with two-shift-working, 250-300 *tonnes* of traffic are handled by four fork lift trucks. Additional foot-operated lift trucks are available, one allocated to each loading team wherever fork lift trucks are used.

The Bundesbahn fork lift trucks have a capacity of 600-1,000 kg. An occasional excess load of up to 33 per cent may be placed on fork lift trucks. A capacity of 600 kg., however, is found to be adequate to handle 98 per cent of the traffic.

Where pallets are made up of packages travelling only a portion of their journey together, in every re-sorting

depot pallets must be repacked. Forwarded traffic is sorted in the shed for outgoing goods, used also for sorting transfer traffic. If, in outwards depots plenty of space is available, one box and one flat pallet are placed for each destination to be reached. In smaller sheds the pallets placed are limited to the most important destinations, and other pallets are made up only if necessary.

The making-up of pallets may differ, depending on local conditions. In all cases a collecting stillage is provided for the miscellaneous palletable traffic, for which a decision can be made only at a late hour as to loading into pallets.

Inwards Traffic

The handling of inwards traffic is not substantially changed by the introduction of the palletisation. The loaded pallets after their arrival are moved into the inwards goods shed and immediately unloaded at suitable places, except, when all the contents of a pallet is destined to be delivered to one consignee; the normal pallet turnround time is not delayed.

The adaptation of the pallet and fork-lift truck scheme necessitates a re-grouping of loading teams. Research at Bebra has shown that the average load of a barrow was 90 kg., so proving that the transfer of one pallet replaces three barrow movements, estimating the average pallet load being 280 kg. Thus three "parallel" working sections are now replaced by four successive ones for handling all transfer traffic, palletable and non-palletable:—(1) non-palletable goods are moved by hand-barrows or trailers into outgoing wagon; (2) palletised traffic to be handled is taken over in pallets by fork lift truck and moved to sorting place; (3) sorting of goods into other pallets; (4) move of these pallets into the outgoing wagon.

In consequence, palletisation requires greater expenditure on transfer work. Satisfactory working in only achieved for two kinds of traffic: non-palletable goods, and the pallets not to be sorted and reloaded. In both cases the goods are conveyed directly into outgoing wagons. The aim at Bebra is to reduce the volume of palleted traffic to be reloaded into other pallets. This traffic has amounted to one-third of all traffic received in pallets so far. This can be achieved by increasing the number of pallets used, by making up more pallets with goods for equal destination, and by reducing the minimum charge of a pallet to 200 kg.

Palletisation in general, however, is expected to produce good results, though the number of wagons required is larger. At Bebra the average weight of a smalls wagon has dropped from 3·3 *tonnes* to 2·7 *tonnes* after the introduction of the palletisation, despite an increase of the general traffic by 7 per cent. This development was expected. When the pallets can be loaded in tiers the expenditure might be reduced to normal level.

Much of the work of loading gangs is done by fork lift trucks, eliminating the risk of injuries. Another benefit is the acceleration in the received, forwarded, and transfer traffic. How far loss, damages and fluctuations in transit time are reduced by the mechanisation cannot be foreseen for the time being according to German Federal Railway authorities, because of the limited application of palletisation. No doubt claims will decrease as the box pallet represents a protection en route not available hitherto.

The essential for the railways, however, is stated to be the question of the expenditure on the palletisation. The expenditure on equipment is considerable. The experience gained shows very clearly that organisation of loading is as important as the careful design of equipment. Hopes that the palletisation can be effected economically can be considered as realised.

The benefits accruing to the Bundesbahn insofar as palletisation is applied to smalls and parcels traffic are limited to the extent of these traffics, but success so far achieved opens the way to further developments.

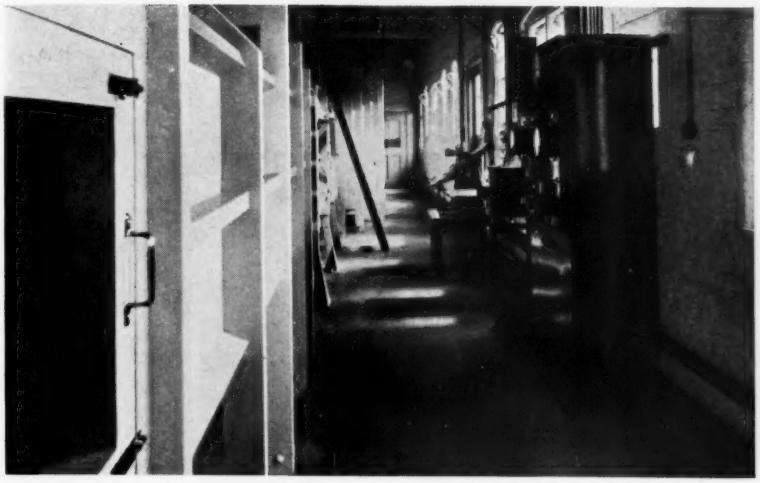
REINFORCED CONCRETE SLEEPERS IN DENMARK.—In 1949 the Danish State Railways laid for trial purposes 175 Dow-Mac concrete sleepers on the Kolding-Ejstrup main line. No fault has been found with them, but to allow a comparison trials are being conducted with other concrete sleepers of German and French types. Those of German design are of the Karig type which are pre-stressed after about four weeks when the concrete has hardened sufficiently, and pre-stressed again after another six weeks, until the final tensile force reached 27 tons. The rails rest on rubber pads and are fixed to the sleepers by stud bolts, screwed into beechwood dowels embedded in the concrete. The French sleepers are of R.S. type, consisting of two reinforced concrete blocks, held together by an inverted T-bar rolled from old rails. The rails also are on rubber pads which protect the concrete against the dynamic forces acting on the rails. The rails are held down by elastic clamping plates of special design, which also provide the insulation for track-circuit signalling. The German and French sleepers were laid on two consecutive half-mile sections on the Copenhagen-Roskilde main line which carries the heaviest traffic in Denmark. The rails over the entire trial section of one mile were welded together without a single joint, having been delivered on the site in lengths of 60 m. As laying had to be confined to a 3¼ hr. possession every night, one 60-m. section, complete with 98 concrete sleepers, was mounted on a specially designed frame at a nearby station every day, and moved on six trolleys to the site during the possession, with six light gantry cranes which lowered the whole section into position.

HIGH CAPACITY WAGONS ON S.N.C.F.—A wartime decree of October 15, 1940, led to the formation by the S.N.C.F. on January 1, 1941, of a company (Société de Gérance de Wagons de Grande Capacité—S.G.W.) to regulate and control the movement of all high-capacity wagons. This company was operated by a board of management consisting of 11 members, of whom six represented the S.N.C.F. and four the wagon owners and users. All privately-owned high capacity wagons came under the control of the S.G.W. which was remunerated by being authorised to retain certain fixed percentages of the bonuses due to the owners of the wagons and to consignors in respect of good loading of wagons and trains. The principal aims of the S.G.W. were to promote good wagon user and the operation of through trains of high-capacity wagons wherever possible. The S.G.W. was authorised to continue after the war, although economic and financial changes took place in its constitution. In February last the rolling stock controlled numbered 8,463 wagons with a total carrying capacity of 328,135 *tonnes*, a steady increase having occurred since the inauguration of the company. In 1952 a total of 32,342 *tonnes* was transported in wagons under the control of S.G.W. Coal, coke and ore made up the bulk of the traffic.

NEW SWING BRIDGE OVER SUEZ CANAL.—A double swing bridge for rail and road traffic is being built by Baume et Marpent over the Suez Canal to replace the bridge which was erected in 1942 and damaged in 1947 by a steamer. The new bridge is composed of two identical swing spans with unequal arms. Its total length is 210 m. with a clear headroom under the swing span of 4½ m. at high water level. The distance between the centre of pivot piers is 112½ m. and the distance between end abutments 207¼ m. The free navigable channel is 96 m. The main girders are double cantilever trusses of through type; the longer arm has seven and the shorter one six panels. The bridge is designed to carry class "D" locomotives of a total weight of 180 tons and axleload of 25 tons at 2 m. spacing. The road is designed for normal traffic of maximum axleload of 15 tons at 3 m. between axles. The operations of turning, wedging and locking the spans are effected by a system of rack and pinions driven by a diesel engine installed in the machinery room.

New Wind Tunnel for British Railways

Installed at Derby for research into smoke and steam dispersal: air speed of 100 m.p.h.



View of the tunnel looking along the working section from the first corner

BRITISH RAILWAYS recently brought into use at Derby a new 100 m.p.h. wind tunnel testing plant to assist railway scientists and designers in their research work over a wide range of problems, such as smoke and steam dispersal, improvement of ventilation of trains and buildings, cooling of diesel locomotives, and design of draughtproof signal lamps.

The new tunnel is understood to be the only one in existence specifically designed for railway research, but is also available for investigations for other undertakings of the British Transport Commission. Scale models of trains and buildings will be used in the tests, and altered in detail during experiments so that results obtained with variations in design can be compared.

Research with wind tunnels was carried out at Derby Locomotive Works in 1935, and the new tunnel replaces one which has been removed. The present tunnel was built at Weybridge by the Airscrew Company and Jicwood Limited to the requirements of the Research Department, Derby, who drew up the aerodynamic design requirements. The firm has long been associated with aerodynamic developments, and the wind tunnel, of the jet-return flow type, was erected at Weybridge and re-erected at Derby under its supervision.

The equipment is housed in a separate structure adjacent to the Research Department, London Road. The wind tunnel is being operated by an air screw driven at 1,400 r.p.m. by a 36-h.p. motor which will draw air through the working section at varying speeds up to 100 m.p.h. Being of the return flow type it enables use to be made of the velocity of the air as it returns through a rectangular duct. The section is 4 ft. 6 in. by 3 ft. 6 in.

Electrical Equipment

The electrical equipment includes a motor generator and starter, switchboard, potentiometer, and instrument panel, the last mounted adjacent to a main observation door. An alternative lower speed working section is provided with a signal lamp testing cone which can be used as required; access doors are glazed. The fan is two-bladed, of 6 ft. dia., and the nacelle is 2 ft. dia.

The accompanying diagram shows the layout of the new wind tunnel, guide vanes, safety screens, and so on, together with the lamp testing zone in which the air speed is 64 m.p.h.

The full-load performance is given in the following table:—

—	Air Speed in Working Section	Power Factor
With honeycomb	101 m.p.h.	0·31
With screen, k = 2 ...	91 m.p.h.	0·42
Alternative low-speed working section ...	22 m.p.h.	—
Lamp testing cone ...	64 m.p.h.	—

The tunnel is constructed of wood with Douglas fir frames and lined with birch-face ply. The wood has been

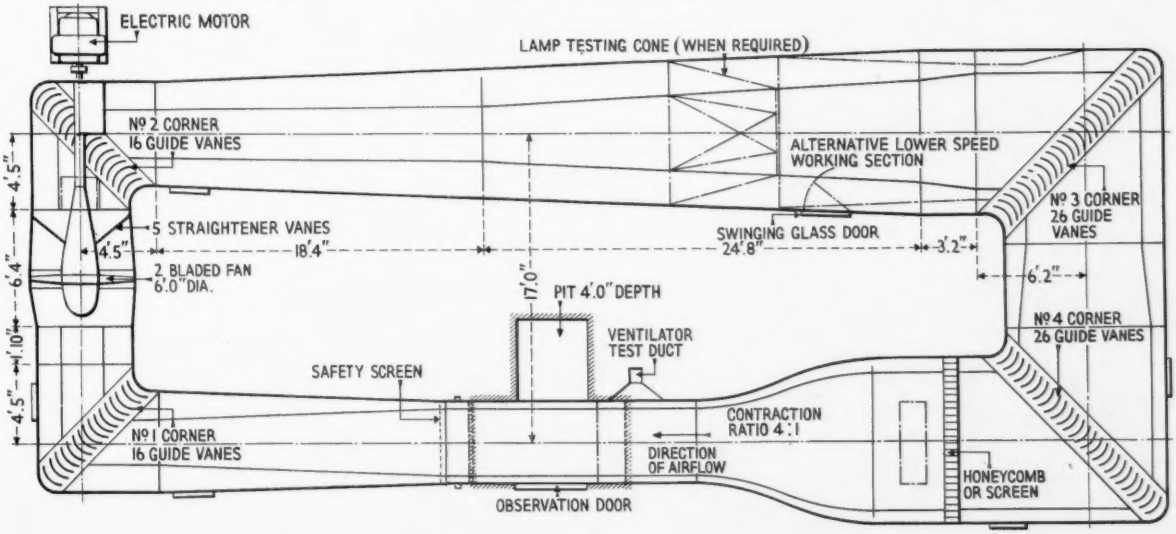


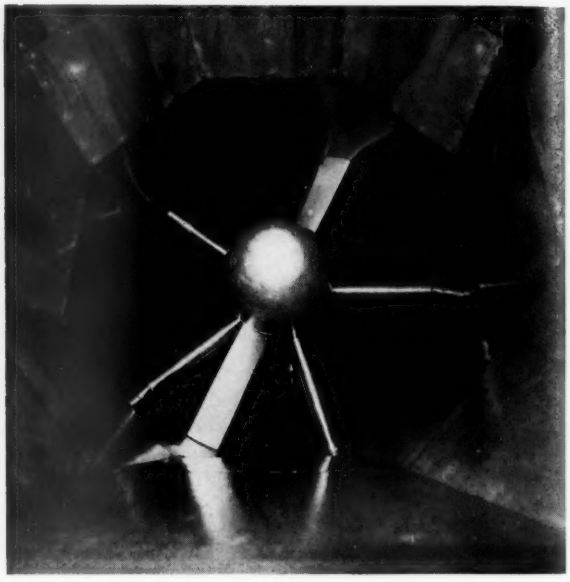
Diagram of the return circuit wind tunnel at Derby

XUM

proportioned to give a low working stress and a minimum of deflection.

Glued joints are made with an improved form of synthetic adhesive, and all joints between the tunnel sections have a resilient gasket flush with the interior wall to provide against the escape of air. The interior is painted and varnished and has an overall length of 65 ft. Four corner vanes are provided, two consisting of 16 guide vanes, and two consisting of 26 guides, all made from rolled aluminium sheet. The screens are of phosphor bronze gauze sheet, and the honeycomb is made of brass sheet with soldered joints, a ventilator test duct is also provided.

The entire equipment is a self-contained unit and includes a machine room 12 ft. by 14 ft. for housing the generator, and so on. A workshop and testroom 24 ft. 9 in. by 14 ft. also is provided, with an office measuring 11 ft. 8 in. by 13 ft. 9 in.

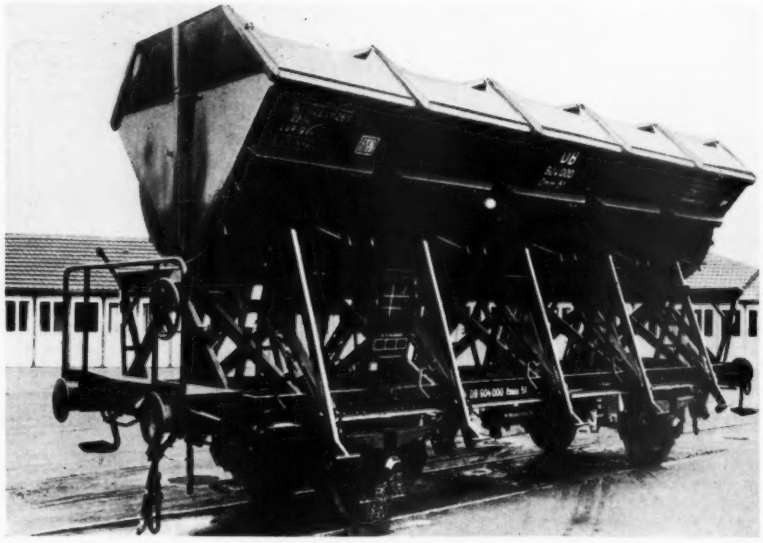


The wind tunnel machine room (left) and an oblique view of the fan and straighteners (right)

German Federal Railway Wagons

Special types embodying novel features

THE German Federal Railway is taking delivery of three new types of wagon. The Ommi type, of which 64 of an order for 200 have been supplied by Orenstein-Koppel & Lübecker Maschinenbau A. G., Dortmund, is for bulk loads such as ballast, gravel, iron ore and sand. The average loading capacity is 22 tons and maximum 26 tons; the tare is 12·6 tons.



Ommi type side-tipping wagon

There are five compartments, mounted much higher above the frame than usual in tipping wagons, an arrangement which allows the contents to be discharged more easily into road vehicles. Each may be discharged independently. The wagons are allocated to particular stations from which consignments are regularly sent. After being discharged any Ommi wagon must be returned, empty or loaded, to its home station.

Conveyance of Powders

The Kkd wagon, for goods in powdered form, is a conversion of former U.S. eight-wheel tank wagons. The work, involving 110 vehicles, is being carried out in railway workshops in association with Polysius G.m.b.H. Neubeckum. The capacity of the wagons is 34-40 tons. The contents may be discharged by compressed air. Wagons of this type are in great demand, but cannot be used outside Western Germany as they do not comply with international requirements.

Siegener Eisenbahnbedarfs A. G., of Dreis-Tiefenbach has delivered 362 wagons of the Kmmks type; they have a sliding roof, in two sections, each providing an opening of 4·5 m. to enable goods of unusual size to be top loaded by crane.

Western Uganda Extension

Progress of work in second and final stage of project, due for completion next year

Construction of line through the Lake George Swamp

SINCE the official opening of the newly completed 45-mile section of the East African Railways & Harbours line from Kampala to Mityana, on August 1, 1953, work has steadily continued on the next stage of the 209-mile Western Uganda Extension, which will carry the line to the foothills of the Ruwenzoris. A report of the building of the section from Kampala to Mityana appeared in our issue of September 18.

The bulk of the work from mile 45 to mile 163 on the line beyond Mityana is of a relatively light nature, although it involves removal of appreciable quantities of earth, and building projects from mile 163 almost to Kasese; the line then enters a section of heavy works. Progress in this area will be relatively slow and a number of major construction problems must be overcome. Heavy earthworks and bridging, and the building of a four-mile bank across the Lake George Swamp are in hand.

With the centre of the main construction works so far to the west, the construction headquarters must now be moved to a site which will facilitate the handling of day to day problems and allow better control of operations. The site selected is Kibarara, a place name covering a hill. Here, about 210 miles by road from Kampala and near mile 170 on the extension, a small township has grown up in the past few months with houses for European, Asian and African staff and a depot for motor transport repairs.

Track-Laying

Between Mityana and Kasese there are four section engineers' camps covering the Mityana section, from mile 45 to 64, the Musozi section, from mile 64 to 94, the Nkonge section, from mile 94 to 163, and the Nkongora section, from mile 163 to 209. Earthworks have been proceeding according to plan since the beginning of 1953 and platelaying beyond Mityana will shortly move forward; it is hoped to attain a steady output of about ten miles per month to the terminus. To enable track-laying to proceed without delay, the completion of each section of earthworks has been timed as carefully as possible, taking into account the exigencies of each area. As some sections of earthworks involve hand labour, others, machinery and contract working, each separate section has been planned individually to ensure that camps, labour, staff and machines are available, or will move to site, in time. The earthworks units will be followed by the platelaying organisation.

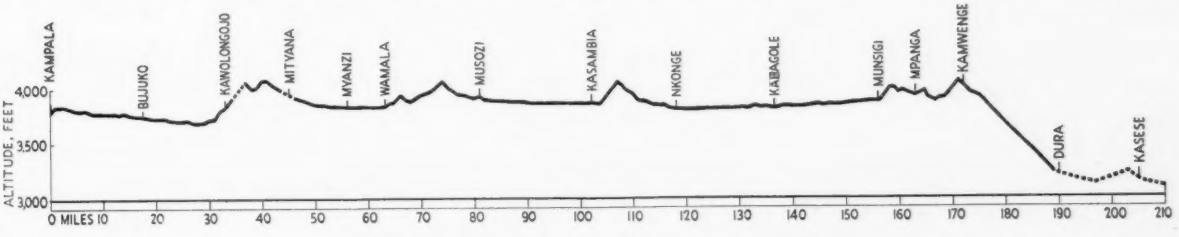
Disposition of Labour

Three heavy earthmoving plant units operated by railway staff are in position and well into the work beyond Mityana. Between Mityana and mile 64, much of the work has already been done, mainly by hand labour. From mile 94 to 144, contract works are now in hand.

Between mile 144 and 163, a bush camp is under construction and here a prison officer, with his family, will work in isolation with another large gang of convicts; the expectation of hard rock in the cuttings in this section may be considered to make this disposition of forces an appropriate one.

From mile 163 to 189, a heavy section of earthworks is under construction by contract, and beyond, a large departmental labour organisation is at work on the building of the four-mile earth embankment over water. Until the end of the construction, ten miles of narrow-gauge railway, operating 12 diesel locomotives and about 200 wagons will function here. The building of this railway within a railway is necessary for the construction of the causeway across the Lake George Swamp. This in turn will save eight miles of main line and innumerable bridge crossings along the foothills of the escarpment and the Ruwenzori mountains. Bridge construction is in progress in all sections of the line, and is timed to reach completion in co-ordination with the earthworks before the end of 1954.

The building of stations and staff quarters is an extensive commitment involving about 500 units of buildings,



Profile of sections completed and under construction

Platelaying gang at mile 10 from Kampala

large and small. To save transport a wide search for building materials has had to be made in hitherto undeveloped areas of country. The problem to be decided now is whether the work will be carried out departmentally, as most is likely to be, or put out to contract.

Accommodation for Staff

Such facts cover the buildings of the railway itself; the provision of accommodation for construction staff to the number of 60 Europeans, 60 Asians, and about 5,000 Africans is a problem in its own. In addition, in the isolated areas to the west, there have also been built two large contractor's camps housing European, Asian and African staff engaged on the contract works.

Works units have now been deployed according to plan over 164 miles of construction beyond Mityana, and month by month, all being well, the gaps between one section and another along the whole route should begin to close, quickly in the first 50 miles and more gradually further west. All, however, are planned to finish towards the end of 1954, with the platelaying pushing forward over each completed section.

The first quarter of 1953 has seen the deployment of staff and plant, the second quarter the settling in to works, and now, in the third quarter, output is beginning to increase to the required level. In banks and cuttings, about 200,000 tons of spoil are now being dealt with monthly; and later it is hoped to reach 500,000 per month.

The total earth movement, now equivalent to about 1,100 trains per month, will be expected to reach about 2,500 each month.

CUT-RATE DAY TICKETS IN NORTH EASTERN REGION.—On November 1, British Railways, North Eastern Region, introduced a cut-rate day return fare of 8s. between Leeds and Manchester. The tickets are available any train any day, and passengers will be able to book from Leeds Central to Manchester Victoria or from Leeds City to Manchester Exchange at the reduced rate. Other day return tickets to Manchester will operate from Bradford Exchange (7s.), Halifax Town or Huddersfield (5s. 6d.), and there will be intermediate bookings to Todmorden and Rochdale at appropriate fares.

Nakivubo Bridge, near Kampala; the temporary line on the left was laid so that construction materials could be moved further inland

BRITISH RAILWAYS AMBULANCE CENTRE.—At a meeting of the Standing Committee of Railway Ambulance Centre representatives, Captain A. N. Cahusac, O.B.E., M.C., formerly Chief Secretary of the St. John Ambulance Association for over 35 years, was presented with an inscribed travelling clock on his retirement from that position. In making the presentation, Mr. P. Anstey, Chairman of the Standing Committee and Regional Ambulance Secretary, Western Region, recalled that the railways became centres of the St. John Ambulance Association well over half-a-century ago, and that during his long term of office Captain Cahusac had rendered valuable service to the railway ambulance movement in connection with all problems associated with the first aid training of railway staff. In stepping down from his high office his loss would be widely felt in all ambulance circles. Other members of the committee paid tribute to Captain Cahusac's qualities and service.

WESTERN GERMAN AGENCY FOR POWERS-SAMAS. — Powers-Samas Accounting Machines (Sales) Limited, announce that Adrema-Werke G.m.b.H., Berlin, manufacturers of addressing equipment, are now the sole representatives for Samas punched card accounting machines throughout Western Germany. The Samas equipment to be marketed will comprise the latest ranges of machines manufactured by Powers-Samas Accounting Machines Limited, and the agreement provides for the fullest co-operation between the two companies whereby Adrema-Werke, G.m.b.H. will give efficient technical and systems service throughout their territory, working in the closest liaison with the technicians of Powers-Samas Accounting Machines Limited.

CONSTRUCTION OF CHINA-TIBET RAILWAY.—According to a report in the Austrian journal *Der Aufbau*, Lhasa, capital of Tibet, is to be linked with China by means of a railway 1,200 km. long, starting from Kandin and crossing the high plateau of Tibet. It is reported that work has already begun.

Locomotives for the Paraguay Central Railway

Of 21,400 lb. tractive effort at 75 per cent boiler pressure for hauling trains of 520 tons

TWO steam locomotives for passenger and fast goods trains and suitable for burning wood have been designed and built at the Meadow Hall Works of the Yorkshire Engine Co. Ltd. They were built to the order of the Paraguay Central Railway through its agents, the English General Agency, London, and are for hauling 520-ton trains on the railway, which is standard gauge.

Of the 2-6-0 two-cylinder simple saturated steam type, with double-bogie tenders, they are based on an existing type already running on the railway, but re-designed for a higher boiler pressure with modern Walschaerts valve gear and many other improvements.

Furthermore, the engine bogie has been altered from the original design to give better riding qualities, and the cylinders are placed further forward.

Principal dimensions are:—

Gauge	4 ft. 8½ in.
Tractive effort	21,400 lb. at 75 per cent boiler pressure
Cylinders (2)	18 in. dia. by 24 in. stroke
Coupled wheel dia.	4 ft. 6½ in.
Boiler pressure	200 lb. per sq. in.
Adhesive weight	42 tons
Factor of adhesion	4·4
Bogie wheel dia.	2 ft. 8 in.
Tender bogie wheel dia. ...	2 ft. 8 in.
Coupled wheel base	13 ft. 6 in.
Engine ,, ,, ...	21 ft. 9 in.
Total ,, ,, ...	46 ft. 9¾ in.
Total length over buffers ...	56 ft. 3 in.
Maximum axleload	14 tons
Maximum curve radius ...	300 metres
Boiler heating surface :	
Firebox	125·5 sq. ft.
Tubes	1,103 ,, ,,
Total	1,228·5 ,, ,,
Grate area	24 sq. ft.
Tender fuel capacity	18 cu. m.
Tender water ,, ...	3,500 gal.

The boiler has approximately the same overall dimensions as the original design except that the plate thicknesses and staying have been modified to provide for the increase in boiler pressure and a welded steel firebox has been incorporated. A self-cleaning hopper type ashpan has been provided with high pressure drenching.

To provide for this and to improve the front end, the boiler has been pitched 6 in. higher than in the original locomotive. The frames and buffer beams are of rolled-steel plate braced together throughout by fabricated steel saddle, stretchers and dragbox. The axleboxes have been provided with renewable liners and the wheels rebalanced, and fitted with snip fastened tyres of class D steel and forged axles.

An improved engine bogie truck with swing link and coil spring control has been provided, placed 6 in. further forward than the original design, to bring the cylinders further forward

Wood-burning 2-6-0 locomotives of 21,400 lb. tractive effort built by the Yorkshire Engine Co. Ltd. for Paraguay Central Railway

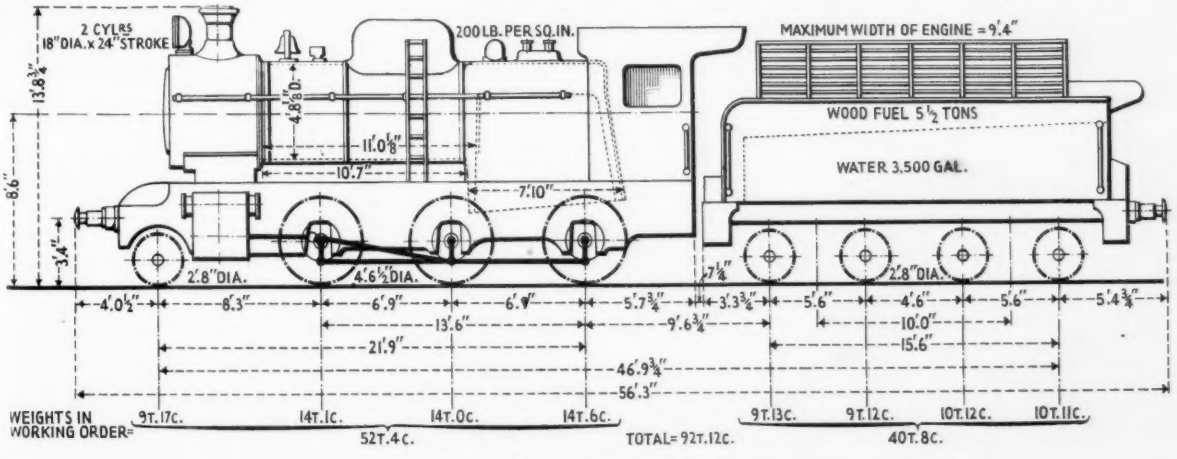


Diagram showing principal weights and dimensions

from the tube plate, and also to obtain a larger smokebox. The rolled wheels are also fitted with snip fastened class D steel tyres and forged axles.

The cylinders have been re-designed for inside admission piston valves and provided with generous steam and exhaust passages with the minimum of obstruction to flow. The piston valves are 8 in. diameter with multi-ring type heads. By-pass valves of the N-C type are provided. Two Ross pop safety valves have replaced the original Ramsbottom type and a steam standard is also provided on the top of the boiler with a master shut-off cock for auxiliary steam connections.

Non-lifting injectors, suitable for the higher steam pressure and high-temperature water are provided below the cab on either side delivering to the top clackbox forward of the dome. In addition to providing for inside admission, the Walschaerts valve gear has been improved in design and has a travel of 4¾ in. with a lap of 1 in. and a lead of ¼ in. The maximum cut-off is 80 per cent. Crossheads are steel castings and fitted with renewable bronze liners. The slidebars are forged and ground and the gudgeon pins are casehardened and ground with a taper fitting into the crosshead. The coupling and connecting rods are forged and machined from acid steel and polished.

Braking Equipment

A solid jet-type ejector has been provided for the vacuum braking of the train, to which is attached a graduable steam brake valve for operating the steam brake on the engine and tender. The original tenders had vacuum braking. The brake power is 75 per cent on the engine in working order, and 90 per cent on the tender light.

Steam sanding is provided with a control valve in the cab. The sandbox is located on top of the boiler barrel and enclosed with the dome in a common moulding. The cab is well ventilated and fitted with drivers' seats on each side. Electric lighting, including head lights for the front of the engine and the rear of the tender, are fitted, which include a turbo generator set mounted on the firebox.

The tender underframe is of riveted construction similar in design to the original locomotive, but the tank is a welded structure and the bogies incorporate steel, cast side frames and bolsters instead of the diamond frame bogies fitted to the original tenders. The rolled-steel wheels are fitted with class D steel tyres and forged axles. The locomotives are fitted with side buffers and screw couplings, but wooden cow-catchers will be fitted before being placed in service. The locomotives are to be shipped fully erected from Liverpool.

The following is a list of suppliers of the material and proprietary fittings:—

Steel plates and sections	Appleby-Frodingham Steel Company
Axle forgings, tyres and laminared springs	Steel, Peech & Tozer
Boiler tubes	Howell & Co. Ltd.,
Vacuum brake ejectors : graduable steam brake valve	Gresham & Craven Limited
Britimp metallic packing	British Metallic Packing Co. Ltd.
Detroit sight-feed lubricators	Vacuum Oil Co. Ltd.
Water gauges	Dewrance & Co. Ltd.
Boiler pressure gauges	Joseph Tomey & Sons Limited
N-C by-pass valves ...	Wota Limited
Blow down valves ...	Everlasting Valve Co. Ltd.
Steam sanding	Gresham & Craven Limited
Injectors	,, ,, ,,
Buffing and draw springs	George Spencer, Moulton & Co. Ltd.
Electric lighting equipment	J. Stone & Co. (Deptford) Ltd.
Insulating mattresses for boiler and firebox	John Taylor Dunford & Co. Ltd.
Double-truss cast-steel plankless type bogies	Davies & Lloyd Limited

New Bridges at Heidelberg

Pre-stressed concrete superstructures adopted

THE reconstruction of Heidelberg Station, described in our October 12, 1951, issue, has entailed the building of two new bridges over the realigned main lines. One of these two-span structures carries the two tracks of the Odenwald (Heidelberg-Würzburg) goods line over the Heidelberg-Bruchsal line. To avoid a hump in the goods roads, construction height has been kept down to 4 ft. 3 in. by adopting a through-type pre-stressed concrete superstructure. A separate span is provided for each track; the main girders are spaced at 14 ft. 8 in. centres, are 6 ft. 7 in. deep and have flanges 1 ft. 8 in. wide. Footways are cantilevered out at the sides of the bridge.

Both longitudinal and transverse alloy-steel bars are used, pre-stressed by the Dyckerhoff and Widmann method. In the main girders the longitudinal bars are 1 in. in dia., and are separate for each of the two spans in tandem under each track, but some overlap above the central pier. Similarly, some of those in the deck slab are continuous throughout the length of the bridge, but here there is also transverse pre-stressing, the bars being in the form of a U with a curve of 23-ft. radius.

The cantilevers were added after the completion of the decks, and were pre-stressed separately from them, though connecting joint bars are provided at 10-ft. intervals. There are no longitudinal pre-stressing bars in the cantilevers. To allow full headroom above the main-line tracks during construction, the whole superstructures for both goods tracks were cast about 1 ft. above their final positions and subsequently lowered to them.

The other overbridge, carrying a road, has two spans each of 82 ft., and a 39-ft. carriageway and two 10-ft. footways are provided. The superstructure has five continuous longitudinal girders, which are slightly deeper at the centre, over the pier, than at the abutments; they are connected by three massive cross girders, one over each support. They carry a top slab 7 in. thick, faced with a 2-in. mastic asphalt surface. Most longitudinal pre-stressing bars are continuous throughout the 164-ft. length, and there is also transverse pre-stressing. This superstructure was cast about 3 ft. above its final position, to which it was lowered after completion.

(Left) goods line overbridge and (right) road overbridge spanning realigned main line

RAILWAY NEWS SECTION

PERSONAL

Mr. J. C. Farr, Chief Boiler Inspector for the Western Australian Government Railways, has returned to Australia from a visit to this country and Germany.

Mr. C. V. H. McDonald, Assistant Chief Electrical Engineer, and Mr. J. Butterworth, Rolling Stock Engineer, both of the Victorian Railways Department, left Melbourne for the U.S.A. and England by air on October 26 to complete arrangements for the construction of £A5,000,000 worth of suburban trains. While in the U.S.A. they will study latest developments in train construction.

Mr. J. T. Whiteford, Manager, Passenger Service Bureau, Canadian National Railways, has been appointed General Passenger Traffic Manager of the same system.

Mr. William D. Neil, O.B.E., of Montreal, General Manager of Communications, Canadian Pacific Railway, has retired. He has been succeeded by Mr. George H. Pescud, Assistant General Manager of the department.

Mr. G. E. Mayne, General Superintendent, Calgary, Canadian Pacific Railway, has been appointed General Manager of the Eastern Region of that system, with headquarters at Toronto.

Mr. J. Q. Maunsell, Q.C., General Solicitor for the Canadian Pacific Railway since 1947, has retired. He has been succeeded by Mr. I. D. Sinclair, who has been Assistant to the General Council in Montreal since 1951.

The following staff changes have been announced by East African Railways & Harbours:—

Mr. A. Johnston, M.I.C.E., Assistant Chief Engineer (Technical), has proceeded on leave pending retirement. He has been succeeded by Mr. C. T. Henfrey, A.M.I.C.E., Works Engineer.

Mr. R. Cochrane, B.Sc., A.C.G.I., District Engineer, recently proceeded on leave pending retirement. Mr. Cochrane has completed over 25 years of service in East Africa, having joined Kenya & Uganda Railways & Harbours from the Buenos Aires Pacific Railway in 1928. He served at a number of stations in Kenya and Uganda as Engineer-in-Charge and, latterly as District Engineer and Permanent Way Engineer in the office of the Chief Engineer.

Mr. R. C. Wontner, A.M.I.C.E., Acting Works Engineer, Nairobi, who is retiring, joined the former Kenya & Uganda Railways & Harbours in 1924 as a junior draughtsman. He was appointed Assistant Engineer (Design) in 1940 and, in 1949, he was promoted to District Engineer. He became Senior District Engineer in 1951, and latterly acted as Works Engineer.

Mr. H. H. Waynforth, M.B.E., E.D., who has been appointed Chief Engineer (Construction) Eastern Railway, India, was born in 1901 and educated at Dulwich College and King's College, University of London, from where he graduated in 1922. In 1923 he joined the Yorkshire Electric Power Company as an Assistant Engineer, and in February, 1925, he joined the Bengal-Nagpur Railway in the same capacity and was employed on the construction of the Raipur-Vizianagram Line. From 1925 to 1947 Mr. Waynforth was a member of the Auxiliary Force (India) and, in 1943, he was awarded the E.D. During he 1939-45 war he was for some time Adjutant of the Bengal-Nagpur Railway Battalion Auxiliary Force (India) and later served in the Indian Engineers. In 1944 he was awarded the M.B.E. After the war he served for several years as Deputy General Manager and for a short period as Chief Engineer of the Bengal-Nagpur Railway. On return from leave in November, 1952, Mr. Waynforth took over as Deputy Chief Engineer (Projects), Eastern Railway, and, on April 1, 1953, he was promoted to be Chief Engineer (Construction).

Mr. H. H. Waynforth
Appointed Chief Engineer (Construction), Eastern Railway, India

We regret to record the death in Ottawa, at the age of 81, of Mr. George Stone, a member of the Canadian Transport Commission from 1932 to 1947. Mr. Stone had formerly been Chairman of the Brotherhood of Locomotive Engineers.

The following changes and appointments in the organisation of the Department of the Chief Medical Officer of the London Transport Executive are announced:—

Dr. J. L. Fyfe has been appointed an Officer of the Executive with the title of Senior Medical Officer. He will be responsible for the Medical Examinations branch of the Department at Griffith House.

Dr. D. M. Evans will take charge of the North-East Division Medical Centre at Manor House.

Dr. C. E. Sefton Myers will work at the North-East Division Medical Centre.

Mr. D. H. Handover, M.Inst.T., has been elected a Member of Council of the Institute of Transport. Mr. Handover, who is chairman of the Scandinavian Airlines System, served in the Council of the Institute from 1939-42 and during 1947-48. He is Vice-Chairman of the Transportation Club.

Mr. H. R. Caulfield-Giles, M.Inst.T., has been re-elected Chairman of the Traders' Traffic Conference for the fourteenth successive year. The Vice-Chairman, Mr. W. Ingleson and the Honorary Treasurer, Mr. A. W. H. Bowler, were also re-elected.

Mr. J. Gurney Braithwaite, Joint Parliamentary Secretary, Ministry of Transport & Civil Aviation, has resigned as a result of ill-health.

Mr. O. R. Smart, Assistant Commercial Superintendent (Passenger — General), Eastern Region, British Railways, has been appointed Assistant Commercial Superintendent (Passenger) for the same region, with effect from November 2.

Mr. A. W. Drew, Area Assistant, Signal & Telecommunications Engineer's Department, Lancaster, London Midland Region, British Railways, retired in October, having completed 50 years' service, the whole of which was spent in the Signal & Telecommunications Department.

The following staff changes are announced by London Midland Region, British Railways:—

Mr. G. E. Curtis, Executive Officer (Goods), formerly at Railway Executive Headquarters, to be District Goods Superintendent, Broad Street.

Mr. W. Galloway, Chief Inspector, Police Department, Midland Area, Birmingham, to be Assistant Chief of Police, Midland Area, Birmingham.

Mr. G. W. Whipp, Assistant to D.G.S., Liverpool, to be Goods Agent, Birkenhead, Cathcart Street.

Mr. N. Liddle, Stationmaster, Mossend, to be Goods Agent, Ettingshall Road.

Mr. R. O. Clarke, Chief Clerk, Birmingham (Lawley Street) to be Goods Agent, Coventry.

Mr. D. S. G. Turner, Chief Claims Clerk, Wolverhampton, to be Goods Agent, Great Bridge.

Mr. G. S. J. Read

Inspecting & Test Engineer, New Zealand Government Railways

Mr. L. P. Parker

Motive Power Superintendent, Eastern Region, British Railways, 1949-53

The late Mr. P. C. Raynor

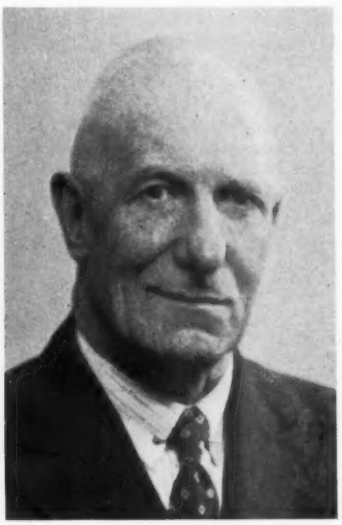
Assistant Commissioner of Railways (Commercial), Western Australian Government, 1949-53

Mr. G. S. J. Read, A.M.I.Mech.E., A.M.I.E.E., A.M.I.Loco.E., Inspecting & Test Engineer, New Zealand Government Railways, who, as recorded in our October 30 issue, is in this country for the purpose of forming a railway inspectorate in London for that system, was born in Wellington on October 9, 1907, and educated at Wellington College. Mr. Read joined the railway department in December, 1924, as a mechanical engineering cadet, in which capacity he served for five years, completing his cadetship in December, 1929. He stayed in Wellington until April, 1930, when he transferred to the office of the Locomotive Engineer at Christchurch as a draughtsman. Mr. Read was appointed Second Assistant Locomotive Engineer at Auckland in April, 1932, and, in October, 1938, he became Assistant Locomotive Engineer at the then new office at Dunedin. In August, 1944, he was appointed Inspecting & Test Engineer in the Chief Mechanical Engineer's office in Wellington, his present position. This is not Mr. Reed's first visit to this country. He was over here from June, 1950, to August, 1951, during which period he was engaged on matters connected with railway contracts, including those relating to the multiple-unit stock and electric locomotives manufactured by the English Electric Co. Ltd. and Robert Stephenson & Hawthorns Limited. Mr. Read left New Zealand on September 15, arriving in this country on September 21.

Mr. L. P. Parker, O.B.E., B.Sc., M.Inst.C.E., M.I.Mech.E., M.I.Loco.E., Motive Power Superintendent, Eastern Region, British Railways, who, as recorded in our October 23 issue, retired on October 21, 1953, has completed more than 48 years of railway service. Mr. Parker was educated at Bancroft's School and London University and served his apprenticeship at the Stratford Works of the former Great Eastern Railway. During this time, he gained a Whitworth Exhibition and was King's Prizeman in Applied Mechanics and City & Guilds Medallist in Electrical Engineering. After a period in the drawing office and Works Manager's office, he joined the Locomotive Running Department and, after holding various positions, he was appointed Assistant District Locomotive Superintendent, Norwich. He became District Mechanical Assistant at Norwich following reorganisation, later transferring to the Operating Department as Assistant Divisional Superintendent at Cambridge. He was appointed District Mechanical Engineer, Stratford, in September, 1921, and after amalgamation in 1923 he became District Locomotive Superintendent,

Mr. H. Green

Appointed a Director of Metropolitan-Cammell Carriage & Wagon Co. Ltd.



Mr. A. T. Cheesley

Retiring Director & Production Manager, Metropolitan-Cammell Carriage & Wagon Co. Ltd.

Mr. N. Haddon

Appointed Production General Manager, Metropolitan-Cammell Carriage & Wagon Co. Ltd.

Stratford. Mr. Parker was appointed Locomotive Running Superintendent (Eastern Section) in December, 1941, the position being redesignated Motive Power Superintendent in 1948. On the fusion of the former Eastern and Western Sections of the Motive Power Department in May, 1949, Mr. Parker became Motive Power Superintendent, Eastern Region. A console television receiver, subscribed to by officers, supervisors and clerical staff of the Motive Power Department was presented to Mr. Parker to mark the occasion of his retirement.

We regret to record the death on October 15, at the age of 58, after an illness lasting several months, of Mr. P. C. Raynor, Assistant Commissioner of Railways (Commercial), Western Australian Government. Mr. Raynor was born on May 28, 1895, and joined the Railway Department in the Audit Branch in 1911. He was transferred to the branch of the Secretary for Railways in 1921, and has filled the senior positions in that branch of Officer-in-Charge, Commercial, Freights & Fares; Officer-in-Charge, Finance; and, from December, 1941, to July, 1946, Deputy Assistant Secretary for Railways, including a term of seven months as Deputy Secretary. From 1942 he was a member of the Western Australian Coal Committee. In 1946, Mr. Raynor conducted the departmental case before the Royal Commission of Inquiry on Australian standard Garratt-type locomotives. Mr. Raynor was a member of the Railways Publicity Committee since its inception in 1945, being elected Chairman in 1946. He was appointed Personal Assistant to the Commissioner of Railways in 1946 and, in 1948, he became Secretary of the Department. Mr. Raynor was, in 1949, appointed one of the two Assistant Commissioners who, with the Chief Commissioner of Railways, formed the Western Australian Government Railways Commission.

Mr. Harry Green, M.I.Loco.E., Special Director & Chief Engineer (Designs), Metropolitan-Cammell Carriage & Wagon Co. Ltd., who, as recorded in our October 30 issue, has been appointed to the board of the company, was born on March 14, 1893. In 1909, Mr. Green went to Swindon, where he received training in the Technical Institute and in the shops and drawing office of the Great Western Railway Works. He served in the Royal Engineers (Territorials) throughout the whole of the 1914-18 war. Mr. Green joined the Metropolitan Carriage Wagon & Finance Company in 1919 as a Junior Draughtsman, later becoming Senior Draughtsman, Leading Draughtsman and Assistant to the Chief Engineer Designs. During the 1939-45 war he was engaged on tank production. Mr. Green became Works Manager & Assistant to Production Manager, Saltley, in 1945. He was appointed a Special Director in 1949.

Mr. A. T. Cheesley, M.B.E., Director & Production General Manager, Metropolitan-Cammell Carriage & Wagon Co. Ltd., who, as recorded in our October 30 issue, is relinquishing his appointment and Directorship consequent to reaching normal retiring age, was born on September 6 1886. He was trained at the Great Western Railway Works at Swindon, as a Locomotive, Carriage & Wagon Engineer, and, after the 1914-18 war, he was appointed Assistant Works Manager of the Carriage & Wagon Department at Swindon. In 1922 Mr. Cheesley left the service of the G.W.R. and joined the Midland Railway-Carriage & Wagon Co. Ltd., then controlled by Cammell Laird & Co. Ltd., as Works Engineer, at their Midland Works, Washwood Heath, Birmingham. He was transferred to the Leeds Forge Co. Ltd., which was also owned by Cammell Laird, as Works Manager, in 1925, and had charge of their Steel Works and Marine Furnace Plant, in addition to the special Pressing Department and Railway Rolling Stock Workshops. Mr. Cheesley returned to Birmingham and became Works Manager of the Midland Works, Washwood Heath, after the formation of the Metropolitan-Cammell Carriage & Wagon Co. Ltd., following the merger of the rolling stock interests of Vickers Limited and Cammell Laird & Co. Ltd., in 1929. In 1945 he was appointed Production General Manager, having control of all production at the four Works in the Birmingham area. He joined the Board in 1948. Mr. Cheesley is also a Director of Metropolitan-Cammell-Weymann Limited and the Patent Shaft & Axletree Co. Ltd. Since 1945 he has been a member of the Management Board of the Engineering & Allied Employers' Association—Birmingham and District Area.

Mr. Norman Haddon, Works Manager, Saltley, Metropolitan-Cammell Carriage & Wagon Co. Ltd., who, as recorded in our October 30 issue, has been appointed Production General Manager, was born on September 6, 1899, and educated at Dulwich College. During the 1914-18 war, he served in the Royal Air Force and, in 1918, he became a premium apprentice with W. H. Dorman & Co. Ltd. He joined the Metropolitan-Carriage Wagon & Finance Co. Ltd., in November, 1921. After completing 2½ years in the Drawing Office at Saltley, he became Assistant Works Manager, Old Park Works, Wednesbury, and, in 1926, he was appointed Works Manager, Oldbury. In 1933, Mr. Haddon joined a firm of industrial consulting engineers and, on the outbreak of war, he was called from the Reserve of Officers of the Royal Artillery Territorial Army with the rank of Captain, to which he had been transferred in 1932. Mr. Haddon was released from the services in 1941 and rejoined Metropolitan-Cammell Carriage & Wagon Co. Ltd. in February, 1941, as Works Manager, Old Park, Wednesbury. He transferred to Saltley in August, 1948, in the same capacity.

The Transportation Club

A dinner was held at the Transportation Club, S.W.1, on Wednesday, November 4, at which members expressed their thanks to the retiring Chairman, Major-General G. S. Szlumper, and welcomed Mr. K. W. C. Grand, the new Chairman. Among those who had intimated their intention to be present were:—

The Rt. Hon. A. T. Lennox-Boyd, M.P., President, Major-General G. S. Szlumper, Retiring Chairman, Mr. K. W. C. Grand, the new Chairman.

Messrs. R. A. Beckett, D. S. Bennett, J. Douglas Black, A. J. Boldero, Colonel A. C. Bonnaffon, Sir Archibald J. Boyd, Mr. V. Bridgen, Colonel P. M. Brooke-Hitching, Messrs. F. L. Castle, C. M. Cock, B. W. C. Cooke, Norman Crump, Harold Elliott, G. E. Embleton, Capt. B. C. Frost, Messrs. R. Gresley, R. H. Hacker, A. E. Hammett, S. G. Hearn, K. A. Henderson, C. P. Hopkins, J. Hyde, K. H. Leach, H. G. R. Luke, J. Matthews, James Montgomery, E. J. Morris, M. D. Morrissey, T. W. Royle, C. E. R. Sherrington, R. A. Smyrk, G. Sutton, A. G. Tofield, John W. Vaughan, Maurice Vignon, C. C. H. Wade, G. M. Warren, Roderick W. Waugh, W. Cyril Williams, H. Wilmot.

Mr. Harold Wacey has been appointed Branch Manager for the Cambridge office of Dean & Dawson Limited.

Mr. R. Swinson, Marine Superintendent, National Benzole Co. Ltd., has retired after almost 29 years of service with the company.

Mr. J. B. Pearson, Chairman of Cowans, Sheldon & Co. Ltd., has relinquished his position on the board after nearly 40 years of service with the firm.

Mr. R. B. Potter, Chairman of Simon-Carves Limited, has been elected to the board of the Davy & United Engineering Co. Ltd.

Dr. A. Rosen, M.I.E.E., has been appointed Telecommunications Consultant in the engineering organisation of British Insulated Callender's Cables Limited, in succession to the late Dr. Hans Carsten.

Admiral Sir Cecil H. J. Harcourt, G.B.E., K.C.B., has been appointed a Director of Dewrance & Co. Ltd., a subsidiary company of Babcock & Wilcox Limited.

Mr. H. C. Margrett, Managing Director, British General Electric Co. Ltd., Hong Kong, has been appointed Manager of the Business Development Department of G.E.C., in succession to Mr. P. H. Nye, whose retirement was recorded in our September 11 issue.

The North Central Wagon & Finance Company announces that, following upon the death of Mr. F. P. Coates and upon the resignation of one of the directors, Mr. P. C. Greaves, the following appointments have been made:—As Directors: Mr. R. J. Ramsden, Mr. P. J. Greaves, and Mr. J. S. Harrison. As Secretary: Mr. D. McIntosh.

The following changes have taken place in the Sales Department of the Northern Aluminium Co Ltd.:— Mr. F. Layton is to take charge of the Sales Administration Department at Banbury, being succeeded as manager of the Leeds area Sales Office by Mr. H. M. Louch. Mr. Louch's previous position as Sales Development Manager is to be held by Mr. E. D. Iliff, at present Publicity Manager, and the Publicity Division will be in the charge of Mr. R. F. Tayler. These new appointments become operative from November 1, 1953.

The Rt. Hon. the Earl of Dudley, M.C., T.D., D.L., J.P., has retired from the Board of British Iron & Steel Corporation Limited of which he had been Chairman since its inception in 1935, following the purchase of Round Oak Steel Works Limited by Tube Investments Limited.

Sir Charles Bruce-Gardner, Bart., M.I.Mech.E., has been appointed Chairman of the Board. He is also Chairman of John Lysaght Limited, a Director of the Steel Company of Wales Limited, Guest Keen & Nettlefolds Limited, and of several other important industrial companies.

Institution of Mechanical Engineers

The following have been elected Associate Members of the Institution:—

Messrs. E. Gunn, General Rubber Goods Division, Dunlop Rubber Co. Ltd., Mr. J. A. Latoszynski, Gas Turbine Department, English Electric Co. Ltd., Mr. E. F. Smith, Vickers-Armstrong Limited.

Appointments to B.T.C. Traffic Costing Service

As the result of successful introduction in 1951 of a traffic costing service on a small scale, the British Transport Commission has approved its expansion to meet the increasing demand for costing advice, especially as to questions of rates and charges under the new circumstances brought about by the Transport Act, 1953.

Besides the existing headquarters office at 222, Marylebone Road, London, and the offices at York and Glasgow, a costing team under a senior traffic costing officer has been established at each of the railway Regional headquarters in London. The teams will advise the Regions of British Railways and road haulage divisions on particular traffic costing problems, and help to extend the field of study of rail and road operating costs generally.

The following appointments to the reorganised costing service are announced by the Commission:—

To be Senior Traffic Costing Officers

Euston: Mr. F. W. Baker, formerly Senior Costing Assistant, B.T.C.; Glasgow: Mr. C. J. G. Taylor, formerly Traffic Costing Officer, Glasgow; Liverpool Street, Mr. R. A. Long, formerly Traffic Costing Officer, Marylebone H.Q.; Marylebone H.Q.: Mr. G. Dickinson, formerly Traffic Costing Officer, Marylebone H.Q., and Mr. E. P. J. Lunch, formerly Assistant to Director of Acquisitions, B.T.C.; Paddington: Mr. R. L. Charlesworth, formerly Traffic Casting Officer, Marylebone H.Q.; Waterloo: Mr. C. H. Lott, formerly Senior Statistics Assistant, B.T.C.; York: Mr. F. T. Gray, formerly Traffic Costing Officer, York.

To be Traffic Costing Officers

Euston: Mr. G. F. Stoddart, formerly Assistant to District Commercial Superintendent, Leicester, and Mr. C. M. Sykes, formerly Assistant Traffic Costing Officer, Glasgow; Glasgow: Mr. S. P. W. Corbett, formerly Assistant District Operating Superintendent, Rugby, and Mr. J. H. Young, formerly Assistant Traffic Costing Officer, Glasgow; Liverpool Street: Mr. A. E. T. Griffiths, formerly Assistant, Costing Division, B.T.C., and Mr. R. Moorhouse, formerly District Accountant, Road Haulage Executive, South Yorkshire; Marylebone H.Q.: Mr. N. S. Taylor, formerly Assistant to Executive Officer, Special Duties, Railway Executive, and Mr. W. E. Thomson, formerly Assistant Traffic Costing Officer, Marylebone H.Q.; Paddington: Mr. R. G. Smith, formerly Assistant, Costings Division, B.T.C.; Waterloo: Mr. S. W. Smith, formerly Traffic Costing Officer, Marylebone H.Q., and Mr. P. M. Lewis, formerly District Accountant, Road Haulage Executive, Cardiff; York: Mr. B. A. Coulson, formerly Assistant (Cartage), Commercial Department, Liverpool Street, Eastern Region, and Mr. G. H. Brook, formerly Assistant Traffic Costing Officer, York.

Gloucester Railway Carriage & Wagon Co. Ltd.

Record output: award of important contracts amid keen competition

Sir Leslie Boyce, Chairman and Managing Director of the Gloucester Railway Carriage & Wagon Co. Ltd., who presided at the recent annual general meeting, pointed out in his statement circulated with the report and accounts for the year ended May 31, 1952, that besides having built carriages and wagons for British Railways, the company had during the year exported rolling stock to Queensland, New Zealand, Rhodesia, Nyasaland, the Gold Coast, Tanganyika, and Malaya.

Their production of the dollar-earning rapid transit cars for the new Toronto Subway was proceeding satisfactorily. Two of these cars, which represented the high-water mark for this type of rolling-stock, were exhibited by the Toronto Transportation Commission at the Canadian National Exhibition at the end of August, and were greatly admired.

The important contracts awarded to the company during recent years in the face of world-wide competition, and the satisfaction repeatedly expressed by their customers with the excellence of their workmanship, Sir Leslie Boyce added, was convincing evidence that in technical ability, in competitive efficiency and in the quality of their products they were still in the forefront of their industry.

As to the future, the order book of the company continued in a very healthy condition. Since his last report there had been a marked improvement in the supplies of steel.

They were employing more men in the workshops than at any time during the 22 years of his chairmanship, and present output exceeded all previous peacetime records.

They had important orders on their books for carriages, railcars, or wagons from British Railways, Victoria, India, the Commonwealth of Australia, Sudan, Ceylon, the Gold Coast, Nigeria, Kenya, and Tanganyika.

The new malleable department of their largest subsidiary, the Gloucester Foundry Limited, was nearing completion and was in operation. Outside experts in foundry practice had described this department as the most modern of its kind in Europe, Sir Leslie Boyce continued. Engineering organisations requiring high-quality blackheart malleable castings would be well advised, before placing their orders, to send their inquiries to the Gloucester Foundry.

Their subsidiary William Gardner & Sons (Gloucester) Limited, had had another successful year. Gardner patent sifters, mixers, and other machines enjoyed a very fine reputation throughout the world, and in an ever-widening range of industries. The countries to which these machines were exported during the past year included Canada, Australia, South Africa, New Zealand, Northern Ireland, Pakistan, India, West Indies, Eire, South America, Norway, Portugal, and Turkey. Reference to the company's financial results was made in our issue of October 16. The report and accounts were unanimously adopted by the meeting, and payment of a final dividend of 7½d. per 10s. unit less income tax at 9s. in the pound, as recommended, was approved.

Retirement of Mr. L. P. Parker

Mr. L. P. Parker, who has retired as Motive Power Superintendent, Eastern Region, at the presentation to him at Liverpool Street on October 19 of a television set. On his left is Mr. J. S. Jones, Assistant Regional Motive Power Superintendent, with Mr. R. H. R. Garraway, District Motive Power Superintendent, Lincoln, on his right. (*See paragraph in personal columns, page* 524)

NEED FOR CAPITAL DEVELOPMENT.—A bold policy of capital development is needed on the part of the Government and the private investor, and Britain should welcome investment by other countries and by international institutions, according to the findings of the export sales conference organised by the Federation of British Industries held recently at Buxton. The chairman was Sir Harry Pilkington, President of the F.B.I. The interests of this country lie in an expansion of world trade as a whole, it was agreed, rather than in all countries competing together for larger shares of the existing volume of trade. More capital investment overseas is the means through which this expansion in world trade must come. Facilities for the financing of production and export are generally adequate, but are not always sufficiently known and used by industry.

European Timetable & Through Carriage Conference, 1953

New services to Germany via Boulogne and to Austria via Ostend: accelerations to and from Scandinavia via The Hook

At the invitation extended by the Hellenic State Railways at the conference at Nice last year, the European Timetable & Through Carriage Conference was held this year in Athens on October 7-17. Delegates attended of most European railways and of systems in the Near and Middle East whose services connect with those of the European railways.

Delegates from the West travelled in a special train of sleeping and restaurant cars provided by the Cie Internationale des Wagons-Lits between Paris Lyon and Athens. The meetings were held in the Zappion Palace.

The Mayor of Athens received delegates at the City Hall, and an official dinner was given by the Hellenic State Railways at the Hotel Grande Bretagne. Because of the suffering caused by the recent earthquake, the ball arranged after the dinner was cancelled. The excursions arranged by the Hellenic State Railways included Sunium, Mycenae, Epidaurus, and Delphi.

The invitation of the Hungarian State Railways was accepted for next year's conference to be held in Budapest on October 6-16.

The British Railways' delegation consisted of:—

Southern Region: Messrs. R. E. Sinfield, Continental Superintendent; W. Crawford, Assistant to Superintendent of Operation; W. J. Nigh, Passenger Assistant to Continental Superintendent; H. B. Colgate; and S. W. Robins.

Eastern Region: Messrs. L. H. K. Neil, Continental Traffic Manager; V. W. T. Wadeson, Chief of Passenger Section; and C. H. Archer.

Mr. R. H. Hacker, Chief Continental Officer, British Transport Commission, was prevented by illness from attending.

Because of the many considerable improvements agreed at the 1952 conference which came into force with the introduction of the 1953 summer timetable, no noteworthy accelerations were secured for next summer, but the opportunity was taken by British Railways' delegates to obtain additional connections to supplement the existing services and alterations in the timings of certain long-distance trains connecting with British Railways steamer services.

Improving Punctuality

Important revisions were made in train services from and to Ostend so as to ensure more punctual running of trains serving Germany, Austria, Denmark, Jugoslavia, and so on.

Brief particulars of new features or alterations in the summer, 1954, services as they affect connections with British Railways Continental services are given below.

London-Paris

The London-Paris via Folkestone/Boulogne service will operate daily from June 18 to October 2, with departures from Victoria at 9 a.m. and from Paris Nord at 2.40 p.m. The "Golden Arrow" will leave Victoria at 2 p.m. (via Folkestone/Calais) and Paris Nord at 12.25 p.m. (via Calais/Dover).

Brittany

The Southampton/St. Malo direct service will operate from Southampton from May 18 and from St. Malo from May 19 and the last sailings will be on October 1 and 2 respectively; there will be three sailings a week each way during the summer season. A through connecting train will run between St. Malo Quay and St. Brieuc. Through connections with South Brittany could not be arranged because of operating difficulties.

Services via Dover/Ostend

The "Tauern Express," which caused difficulty last summer because of late running, will leave Ostend at 9.20 p.m. eastbound. The westbound train will continue to connect with the morning sailing from Ostend (revised sailing time 10 a.m.). Besides the through vehicles between Ostend and Graz, Klagenfurt, Belgrade, and Athens, there will be a through coach (all classes) between Ostend and Rijeka (Fiume) daily during the summer season.

"Kärnten Express"

A relief to the "Tauern Express," to be known as the "Kärnten (Carinthia) Express," between Ostend and Munich, Salzburg, Graz, and Klagenfurt, will leave Ostend in connection with the afternoon service from Victoria daily from June 26 to September 11, and return from Austrian and South German stations from June 28 to September 13.

Germany via Folkestone/Boulogne

It was agreed to institute a through service between Boulogne Maritime and Munich via Laon and Strasbourg on certain days of the week, to be decided later, connecting with the Folkestone/Boulogne sailings. Arrival in Munich will be at 6 a.m. and return departure at 2 a.m.

"Simplon-Orient Express"

The timetable of the S.O.E. was examined with a view to accelerating the service to and from Greece, but pending completion of electrification work in Italy, in 1956, the accelerations proposed could not be effected.

"Orient Express"

Considerable discussion took place on maintenance of the Prague-Warsaw branch of this train, and it was finally decided that, as the "Orient Express" provided the only link between Paris and Prague and Warsaw, the sleeping car service between Paris and Warsaw should be continued. The through ordinary coaches between Paris and Warsaw will not operate next summer.

Scandinavia via The Hook

By routing the "Holland-Scandinavia Express" via Grossenbrode/Gedser there will be acceleration between the Hook of Holland and Copenhagen. The eastbound departure from The Hook will be at 7.15 instead of 6.57 a.m. with an arrival in Copenhagen at 11.20 p.m. instead of midnight; westbound passengers will leave Copenhagen 7.40 a.m., 1 hr. 40 min. later than formerly.

"Rhinegold Express"

British Railways had drawn attention to the bad timekeeping of the northbound train, and representations were repeated at the conference. Hitherto the train has consisted of Innsbruck-Hook, Innsbruck-Dortmund and Basle (Rome)-Hook and Basle-Dortmund sections, which linked up at Mainz and separated again at Cologne. In future the two sections will run independently to Cologne, entailing one shunting operation instead of two, and thus better timekeeping may be anticipated.

As with the "Rhinegold Express" representations were made for better timekeeping of the "Loreley Express" and the arrival at the Hook of Holland will be 30 min. earlier than hitherto.

"North West Express"

The whole of this train, connecting with the Harwich-Hook day service, is to be routed via Grossenbrode-Gedser through to Copenhagen with a sleeping car and the service will be accelerated to arrive at Copenhagen at 10.50 a.m. instead of 12.34 p.m. In the reverse direction the train will leave Copenhagen 35 min. later than at present. The journey time from Copenhagen to Stockholm will be reduced to 10½ hr., more or less in line with the timing for the reverse direction.

"Austria Express"

The first and second class sleeping car Hook of Holland/Frankfurt is to be abandoned as unremunerative. In its place there will be a second and third class sleeping car between The Hook and Salzburg via Stuttgart, also a D.S.G. sleeper between Kaldenkirchen and Passau.

Charges on Pallets Abolished

The British Transport Commission announces that to encourage the transport of traffic on pallets, no conveyance charges are being made by British Railways as from November 2 on owners' pallets on which goods are loaded, or for the return of pallets to senders.

Traffic conveyed on pallets by goods or passenger train services will be charged on the net weight of the goods and packing but excluding the weights of the pallets, and returned empty pallets will be carried free by rail back to the point of origin.

The revised conditions of conveyance provide for the trader to declare the total weight of the consignment, including weight of pallets; the chargeable weight of a consignment will be computed by deducting from the gross weight of the load the actual weight of the pallets, such allowance not to exceed the following:—

Size of pallet (in.)	Weight (lb.)
32 × 40	56
32 × 48	56
36 × 40	56
40 × 40	56
40 × 48	84
40 × 60	84

British Railways themselves use pallets for moving goods from point to point in 39 depots, while schemes have been authorised, or are under consideration, at 35 other stations.

Special Pallet Vans

Goods vans have been provided with specially strengthened floors and with a wide doorway at one end of each side to help the loading and unloading of palletised traffic; partitions are provided to prevent movement of the load during transit.

As the result of experimental transits by railway arranged in conjunction with large firms, 72 additional pallet vans are being built to cater for regular flows of traffic.

Institute of Transport Anniversary Luncheon

Mr. Alan Lennox-Boyd on future prospects for surface and air transport

The thirty-fourth anniversary luncheon of the Institute of Transport was held in the Connaught Rooms, London, W.C.1, on November 3, with Mr. John Elliot, President of the Institute and Chairman of the London Transport Executive, in the chair, and some 450 members and guests present.

Mr. John Elliot, proposing the toast of the Queen, welcomed the distinguished guests, including the Minister of Transport & Civil Aviation, Mr. Alan Lennox-Boyd, who, he said, should have a seat in the Cabinet and from whom he had received the fullest co-operation.

Now that the Battle of Transport was over, he hoped that those left in charge could be left to get on with the job in the interests of the users of transport, the people who really mattered and finally paid for everything.

The principles of transport, he added, remained the same now as when Hannibal crossed the Alps. It was the traffic peaks that cost the money, because about three-quarters of the equipment needed to move masses of people in a few hours or days must stand idle for the rest of the time. The problem of the operator was to provide the highest standard of service demanded at a price the public would pay and which at the same time would keep the transport business solvent and able to offer an attractive career for the many engaged in it.

The Institute of Transport must speak out with independence, and above all, keep on talking transport and leave politics to politicians.

Lord Balfour of Inchrye proposed the toast of "Transport." He said the problem today for the Government and the transport industry was to devise a system in which overall national policy was laid down by the Government but with freedom from Whitehall control or restrictions and with the impetus of competition.

The economic preservation of older and existing forms of transport could not be attained by artificially holding back air development; the only solution was the economic and operational interlocking of all forms of transport to a greater degree than allowed by present rigid governmental structures.

Rail and Air Partnership

He regretted that the changes in transport organisation in 1945 and succeeding years had precluded a partnership of air and railway transport. Developments in air transport in the next 20 years would mean that surface could lend air transport the benefit of long experience.

Lord Balfour stressed the development of British aircraft design and construction, and foretold the development in air transport of rocket and atomic propulsion.

Mr. Alan Lennox-Boyd in his reply pointed out that many of his audience and the transport undertakings for which they worked were making reasonable profits. He agreed that so technical a matter as transport should be controlled by technicians.

Freedom of Choice for Users

The enormous power of the modern State, he added, must not be used to stifle private transport enterprises in the supposed interests of the State. The public must choose the form of transport it thought it ought to have. If it was wrong for the Government to dictate the denomination of a school for a child, it was equally wrong to dictate the form of transport for a transport user.

He paid tribute to Mr. John Elliot for his work under private enterprise on the Southern Railway and under State ownership as Chief Regional Officer of the Southern and London Midland Regions and as Chairman of the Railway Executive. London Transport would be grateful for the imagination and energy of Mr. Elliot.

The Leaders of nationalised transport, Mr. Lennox-Boyd said, must be free to express their opinions. As to his own part in recent and current transport developments, he was glad of his work in securing freedom in charging for the railways.

New Chairman of B.T.C.

He regretted the uncertainty among railwaymen at the present time, and the circumstances which prevented General Sir Brian Robertson from taking up his duties as Chairman of the British Transport Commission, and he would do all he could to expedite his return from Egypt. Meanwhile it might be as well that no hasty decision was taken as to the future of nationalised transport.

He foresaw a great future for British Railways, perhaps their greatest age, and he hoped the new Chairman of the B.T.C. would ensure the best use of the opportunities provided by the Act of 1953.

Referring to the unification on October 1 of the Ministries of Transport and Civil Aviation, Mr. Lennox-Boyd stressed that the development of air transport would not restrict that of surface transport. There had been, and would be, an overall increase in traffic in all forms of transport. A partnership between air and surface transport, as had been proposed in the past by the Conservative Party, was not impossible.

He was, he added, disturbed at the destruction of some institutions under the 1953 Act. He hoped the new session of Parliament would be tranquil as regards transport, and that questions such as disposal of nationalised road haulage assets would be discussed in a non-party atmosphere. Decentralisation in nationalised transport was important. The present interim organisation, however, must be regarded simply as such, and was not necessarily the shape of things to come.

Mr. John Elliot closed the proceedings, thanking the speakers and praising the outspokenness of Mr. Lennox-Boyd.

Those who accepted invitations included:—

Messrs. F. W. Abraham, Stanley Adams, W. P. Allen, D. F. Anderson, T. Austin, Sir John Benstead, R. W. Birch, W. E. Blakey.

Messrs. David Blee, Sir Archibald Boyd, Messrs. J. H. Brebner, C. T. Brunner, L. J. Callaghan, A. L. Castleman, Harold Clay, F. W. Crews, Ernest Davies, E. A. W. Dickson, H. T. Dutfield, A. F. Fielding, A. Forbes Smith.

Messrs. Frank Gilbert, M. H. B. Gilmour, D. F. Gowen, F. Grundy, A. E. Hammett, C. M. Hannoyer, F. D. M. Harding, A. A. Harrison, S. G. Hearn, J. L. Henderson, Lord Glyn, Colonel Sir Eric Gore-Brown.

Messrs C. P. Hopkins, Leslie Hore-Belisha, E. S. Hunt, C. C. Inglis, Sir Gilmour Jenkins, Mr. D. R. Lamb, Brigadier C. A. Langley, Messrs. W. H. W. Maass, D. McKenna, E. G. Marsden, Peter Masefield, James Maxwell, F. A. A. Menzler, W. H. F. Mepsted, G. Morton, R. Morton Mitchell.

Mr. L. H. K. Neil, Sir George Nelson, Messrs. J. S. Nicholl, G. K. Nield, S. E. Parkhouse, A. C. B. Pickford, S. E. Raymond, David Renton, J. E. M. Roberts, A. Roebuck, Major-General G. N. Russell.

Messrs. H. F. Sanderson, L. M. Sayers, R. Simpson, G. F. Sinclair, G. W. Quick Smith, D. C. Stephen, P. J. R. Tapp, S. B. Taylor, Sir Miles Thomas, A. B. B. Valentine, Sir Reginald Wilson, Mr. A. W. Tait.

JAMAICAN ORDERS PLACED IN CANADA.—It is reported that new rolling stock valued at more than £90,000 has been ordered by the Jamaican Government Railway as part of a £600,000 plan for railway improvement. Twenty-five box cars, ten cane wagons and machine shop equipment are included. The first part of the plan, estimated to cost £300,000 covers more stock and equipment; the second part may include diesel-electric locomotives.

DIVERSION FOR SHIFNAL VIADUCT REBUILDING.—Because of the reconstruction of Shifnal Viaduct, trains normally scheduled to run between Shrewsbury and Wellington, will be diverted via Stafford on Sundays, November 29 and December 6. These diversions, which have been postponed from the dates originally arranged (Sundays, November 8 and 15) will affect trains between Paddington, Birmingham Snow Hill, Wolverhampton, Shrewsbury, Chester and Birkenhead, involving in some instances later arrivals at destination.

RESISTANCE WELDING AND HEATING MACHINES.—Metropolitan-Vickers Electrical Co. Ltd., and British Insulated Callender's Cables Limited announce that as from November 2, 1953, arrangements have been made whereby Metropolitan-Vickers takes over the manufacture, sale, and servicing of resistance welding and heating machines formerly manufactured by British Insulated Callender's Cables. The new arrangement adds considerably to the already extensive Metrovick range of arc welding and resistance welding equipments by the addition of further models of pedestal spot, slow butt, hand flash butt, and automatic flash butt welders; also rivet heaters, resistance brazing machines, and wire rope parting machines.

NEW COMPANY TO ADVISE ON FUEL.—A non-profit-earning company to provide increased fuel efficiency advisory services for industry is being set up. The proposed name is the National Industrial Fuel Efficiency Service. It is being formed by the British Productivity Council at the invitation of the Minister of Fuel & Power after his acceptance of the proposals of the Committee under Sir Harry Pilkington set up by the Minister to work out a scheme for implementing a Recommendation of the Committee on National Policy for the use of Fuel & Power Resources (Ridley Committee). The primary object of the company is to provide general advice to industry and non-industrial establishments other than domestic users, and to give practical help to secure the most efficient and economical use of all forms of fuel, heat and power. The company will be financed by contributions from the National Coal Board, the British Electricity Authority and the Gas Council, supplemented perhaps by voluntary contributions from industry, and, where appropriate, by fees for its direct services. Sir Leslie Hollingshurst will be chairman.

Questions in Parliament

Chairman of the B.T.C.

When Mr. J. A. Sparks (Acton—Lab.) on October 28 asked when General Sir Brian Robertson would take up his duties as Chairman of the B.T.C. Mr. Alan Lennox-Boyd (Minister of Transport & Civil Aviation) said the new Chairman was at present engaged in negotiations with Egypt and it was not yet possible to say when he would take up his duties with the Commission.

London Transport Inquiry

Mr. Alan Lennox-Boyd informed Mr. P. H. Collick (Birkenhead—Lab.) in a written reply on October 22 that he understood that the Committee of Inquiry into London Transport had held five meetings since he appointed it on July 8, 1953. He had assumed that that committee would need at least a year to complete its task.

Management of British Railways

Asked by Mr. J. A. Sparks (Acton—Lab.) on October 28 how the responsibility for running British Railways was now divided as between the B.T.C. and the Chief Regional Managers, after his abolition of the Railway Executive. Mr. Alan Lennox-Boyd stated in a written reply: As the B.T.C. has announced, its interim railway reorganisation provides that the Chief Regional Managers will be responsible for all railway activities, commercial, operating, and technical, in their respective Regions and will report directly to the Commission. The Commission, assisted by an expert headquarters staff, will control major policy, ensure a common line of policy in important matters, and conduct certain common and central services.

Sale of B.T.C. Vehicles

Asked on October 28 by Mr. J. A. Sparks (Acton—Lab.) how it was proposed to maintain an uninterrupted flow of traffic during the sale of the first 10,000 road vehicles of the B.T.C.; and what conditions would be imposed on the new owners to ensure that such traffic would continue to be conveyed, Mr. Alan Lennox-Boyd wrote in reply: I rely on the Commission to make the best arrangements it can to carry on the existing undertaking without avoidable disturbance of the country's transport system in accordance with their duty under the Act. The question of any conditions to be attached to the sale of transport units in particular cases is a matter for the Commission and the Disposal Board.

Thesiger Committee Report

Mr. Alan Lennox-Boyd, replying on October 28 to questions by Mr. G. Nabarro (Kidderminster—C.), Mr. D. Jones (Hartlepools—Lab.), and Sir Richard Acland (Gravesend—L.) said he thought the report of the Thesiger Committee would be ready within a few weeks, and he would make it available as a Stationery Office publication.

Manila Railway Company

Mr. W. Teeling (Brighton Pavilion—C.) on October 26 asked the Secretary of State for Foreign Affairs what progress had been made in recovery of dollar amounts owing to the Manila Railway Co. (1906) Ltd.

Mr. Anthony Nutting (Joint Parliamentary Under Secretary of State for Foreign Affairs) replied that efforts made by the company since the war on behalf of bondholders had not so far been successful. The company now had approached the Foreign Office, and he was prepared to consider how that department could help in representations.

Staff & Labour Matters

Engineers' Wage Claim

Leaders of the C.S.E.U. met the Engineers & Allied Employers' National Federation on October 29 to submit further arguments in support of the unions' claim for a 15 per cent increase in pay for engineering workers. The claim had previously been declined by the Employers' Federation, but Sir Percy Mills, President of the Federation, undertook to examine in detail certain fresh information which the C.S.E.U. put forward.

The reply of the employers was to be given at a further meeting on November 5. In arranging this meeting Sir Percy Mills said that he would be deluding the union leaders if he did not add that the employers' representatives had seen nothing in the new statement to justify any increase in wages beyond that conceded last November.

The C.S.E.U. Executive Committee will meet on November 12 to consider the reply given by the employers on November 5.

Meanwhile on October 31 more than 5,000 Merseyside engineers at Liverpool called on the National Executive of the C.S.E.U. to organise a country-wide stoppage unless a favourable reply was received from the employers.

A parallel claim for 15 per cent increase in rates of pay of shipyard workers has been rejected by the shipbuilding employers; and union leaders were to meet the Shipbuilding Employers' Federation on November 5 to present new arguments for their case.

Bus Employers' Wage Move

Employers in the passenger transport industry representing both municipal and privately owned undertakings throughout the country are reported to have lodged a claim for a reduction of 7s. 6d. a week in the wages of their employees.

The situation is said to have developed as a result of the desire of busmen that the carrying of standing passengers in buses should be abolished or reduced. The employers' claim for a wage reduction is their reply to the attitude of the trade unions in the industry.

The case for the municipal employers is to be stated before the Joint Industrial Council for Municipal Transport Undertakings on November 12.

NEW PREMISES FOR THE B.S.I.—The British Standards Institution was At Home recently to Members and to representatives of the technical Press at the new premises at 2, Park Street, London, W.1. The new building, which was originally designed for residential flats, has been suitably altered and will house all departments of the Institution, which formerly occupied premises in separate buildings. Greater efficiency will accrue as contact between departments is rendered much easier. Ample space also is provided on the second and fourth floors for committee rooms, a very necessary provision, as up to 30 technical committee meetings are held every day.

Contracts & Tenders

British Railways, Eastern Region, have placed a contract with R. F. Herron Limited, Ruislip, for the renewal, repair and reglazing of roof of the locomotive shed at Plaistow Motive Power Depot and for repairs to and reconstruction of roof of the locomotive shed at Parkeston Quay Motive Power Depot.

The Board of Management, Docks & Inland Waterways, has recently placed the following contracts in respect of the South Wales Docks:—

Drysdale & Co. Ltd., Glasgow: supply and installation of electrically-operated pumping plant and associated electrical equipment for electrification of Commercial Graving Dock Pumping Station, Cardiff

Hydraulic Engineering Co. Ltd., Chester: supply and installation of electrically operated pumping plant and associated electrical equipment for electrification of South Dock Power Station, Swansea

Sulzer Bros. (London) Ltd., Leeds: supply and installation of diesel driven "standby" pumping plant for hydraulic pressure services, South Dock, Swansea

Penarth Pontoon, Slipway & Shiprepairing Co. Ltd., Penarth Dock: overhaul of steam dredger *Peeress*

J. A. Crone Limited, Cardiff: repairs to "J" Shed, Prince of Wales Dock, Swansea, and construction of crane track at "H" and "G" Shed Wharves, Prince of Wales Dock, Swansea

British Railways, North Eastern Region, have placed contracts as follows:—

Charles R. Price, Doncaster: reconstruction of roof over locomotive shed, Bowes Bridge Motive Power Depot

Wilkins & Mitchell Limited, Darlaston: four trimming presses at Shildon Works axlebox shop

K. Blackman Limited, Newcastle, 1: installation of sawmill dust extracting plant, Walker Gate Carriage & Wagon Works

Heenan & Froude Limited, Worcester: installation of wood waste incinerator and steam raising plant, Walker Gate Carriage & Wagon Works

A. Heaton & Co. Ltd., Liversedge: installation of high-pressure hot water heating system, Walker Gate Carriage & Wagon Works

The closing date for the receipt of tenders for rolling stock for Spanish narrow-gauge railways has been postponed to December 15. Details appeared in our October 9 issue.

The Director General of Supplies & Disposals, Railway Stores Directorate, New Delhi, is inviting tenders for:—

(i) 200 buffer shanks, 18 in. dia., steel Class II

(ii) 250 casings for buffers, 10¾ in. centre (C.S.) for QQ type wagons

(iii) 96 pivot centre top (C.S.) for bar frame bogie goods stock

Tenders are to be submitted to the Director General of Supplies & Disposals, Shahjahan Road (Section S.R.I.), New Delhi, quoting reference S.R.I./16787—D/III for (*i*); S.R.I./16731—D/III for (*ii*); and S.R.I./16771—D/III. They will be received up to 10 a.m. on November 17 (*i*); November 18 (*ii*), and November 24 (*iii*).

The United Kingdom Trade Commissioner at Johannesburg has notified the Board of Trade, Export Services Branch, of a call for tenders issued by the South African Railways for the supply of two 7-8 ton diesel locomotives suitable for operating on 3 ft. 6 in. gauge track of 40¼ lb. rail.

The closing date for the receipt of tenders is 9 a.m. on November 26. Tenders must

be enclosed in a sealed envelope inscribed on the outside "Tender No. B.6212 for Locomotives," and addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg.

The Stores Department of the South African Railways has recently re-issued its "Instructions for Guidance of Overseas Tenderers and their South African Representatives or Agents," and copies of this leaflet are available in the Export Services Branch for inspection by United Kingdom firms. Additional information may be obtained from the Chief Stores Superintendent, S.A.R., Room 208, Park Chambers, Rissik Street, Johannesburg.

One copy of the conditions of tender with specifications is available on loan by United Kingdom firms from Room 801, Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

The United Kingdom Trade Commissioner at Johannesburg has notified the Export Services Branch of the Board of Trade of a call for tenders issued by the South African Railways for:—

12,000 clips, hose pipe with bolts complete (each clip to consist of two halves and two bolts)
7,200 couplings, hose pipe

Tenders should be enclosed in a sealed envelope bearing the inscription on the outside "Tender No. B.6309, Steam Heat Gear Metal Parts," and be addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg, to arrive not later than 9 a.m. on December 3. The drawings can be inspected at the offices of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C.2.

One copy of the tender document may be borrowed from the Branch at Room 801, Lacon House, Theobalds Road, W.C.1.

The United Kingdom Trade Commissioner at Johannesburg has notified the Export Services Branch of the Board of Trade of a call for tenders issued by the Stores Department of the South African Railways for:—

12,000 hose rubber, 1¼ in. dia.
5,000 washer, coupling hose
18,000 washer, valve, gravity "Ball Type"

The closing date for receipt of tenders is 9 a.m. on December 3. Tenders, enclosed in a sealed envelope endorsed "Tender No. B.6308: Steam Heating Gear: Rubber Parts," should be addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg. United Kingdom firms may find it preferable to submit their tenders through local agents or representatives. Copies of the drawings can be obtained from the Office of the Chief Stores Superintendent, Room 209, Park Chambers, Rissik Street, Johannesburg, on payment of 2s. 6d. per print, or may be inspected at the Office of the High Commissioner for the Union of South Africa, South Africa House, Trafalgar Square, London, W.C.2.

One copy of the specifications and conditions of tender, without drawings, may be borrowed from the Branch, at Room 801, Lacon House, Theobalds Road, W.C.1.

WICKMAN LIMITED, AGENTS FOR EDOUARD DUBIED ET CIE.—Wickman Limited has recently been appointed sole selling agents for the Swiss machine tool manufacturers, Edouard Dubied et Cie, Neuchâtel. The manufacturing programme at present comprises rapid copying lathes of 4¾ in. centres, 15¾ in. and 25⅝ in. between centres, together with a series of high production lathes of similar capacities. Universal tool and cutter grinding machines also are to be manufactured.

Notes and News

Senior Administrative Assistant Required.—Applications are invited for the post of senior administrative assistant required by the Nigerian Government Railway. See Official Notices on page 531.

Poyle Estate Halt Opened.—A new halt to serve the trading estate at Poyle (Middlesex) has been built between Colnbrook and Poyle Halt on the West Drayton-Staines branch of the Western Region. Named Poyle Estate Halt it consists of a platform 50 ft. in length and a shelter to accommodate up to 30 persons.

Southern Railway of India: Railway Accounts & Finance Study Circle.—An association, the Railway Accounts & Finance Study Circle, has been founded in Madras, to provide inter alia a forum for the staff of the Accounts Department of the Southern Railway of India to discuss topics relating to railway accounts, finance, and statistics.

New Turntable at Cleethorpes.—A new vacuum-operated 70-ft. turntable is to be installed at Cleethorpes. The present turntable, over 40 years old, no longer can be economically maintained. While a 65-ft. turntable is adequate for present needs, the largest and heaviest locomotives are able to work to Cleethorpes and it has been decided, therefore, to install a longer one to cover future possible developments.

Overseas Visitors in September.—During September 72,300 overseas visitors arrived in Britain. More than 37,000 were visitors from European countries, 17,300 from the United States and an estimated 14,000 from the Commonwealth. September arrivals brought the total of overseas visitors for the nine months January-September to 687,000—an increase of 11 per cent compared with the same period last year. The British Travel & Holidays Association estimates that by the end of the year Britain will have attracted more than 800,000 visitors from overseas and earned some £125,000,000 thereby.

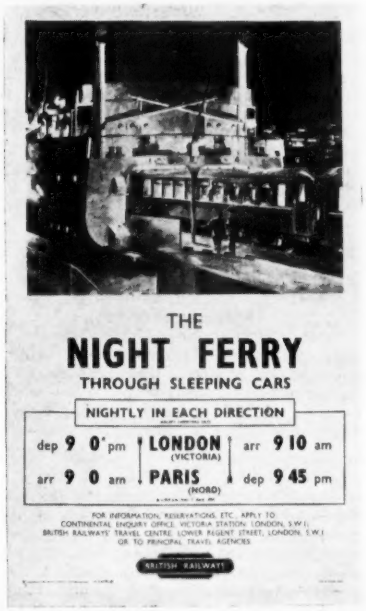
Railway Students' Association: Annual Dinner and Dance.—The annual dinner and dance of the Railway Students' Association will be held at the London Transport (South Kensington) Club, on Wednesday, December 2. The reception by the President, Mr. David Blee, will be at 6.15 p.m. followed by dinner at 7 p.m. Price of tickets will be 12s. 6d. each.

High-Speed Trains.—The letter from Mr. W. G. Polack, published in our October 23 issue, intimates, through a slight change of wording in editing, that the "Plant Centenarian" ran at very high speeds from Kings Cross to Doncaster on September 20 as well as on the return journey. The northbound timing was at average of 46 m.p.h., doubtless because of the historic locomotives hauling the down train, and the reference to high speed was to the southbound journey only.

Southern Region Lecture & Debating Society: Visit to Germany.—A party of 40, mostly members of the Society, which visited Germany last September, were welcomed at Cologne by Dr. Hardt, Manager, Cologne Division of the German Federal Railway, and visited the new colour light signalling and reconstruction of Cologne Central Station. Later they travelled to Wuppertal in a train composed of the new standard lightweight stock used for interurban traffic, and rode on the Wuppertal Schwebebahn of which they inspected the depot at Wuppertal Vohwinkel. At Munich the party were shown the new control tower at the Hauptbahnhof by means of which the work of the central part of the station.

Southern Region Publicity

THE
GOLDEN ARROW
ALL-PULLMAN
DAILY IN EACH DIRECTION
dep 1 0 pm LONDON (VICTORIA) arr 6 30 pm
arr 9 39 pm PARIS (NORD) dep 12 30 pm
FOR INFORMATION, RESERVATIONS, ETC., APPLY TO:
CONTINENTAL ENQUIRY OFFICE, VICTORIA STATION, LONDON, S.W.1.
BRITISH RAILWAYS TRAVEL CENTRE, LOWER REGENT STREET, LONDON, S.W.1.
OR TO PRINCIPAL TRAVEL AGENCIES
BRITISH RAILWAYS


THE
NIGHT FERRY
THROUGH SLEEPING CARS
NIGHTLY IN EACH DIRECTION
dep 9 0 pm LONDON (VICTORIA) arr 9 10 am
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FOR INFORMATION, RESERVATIONS, ETC., APPLY TO
CONTINENTAL ENQUIRY OFFICE, VICTORIA STATION, LONDON, S.W.1.
BRITISH RAILWAYS TRAVEL CENTRE, LOWER REGENT STREET, LONDON, S.W.1.
OR TO PRINCIPAL TRAVEL AGENCIES
BRITISH RAILWAYS

London-Paris day and night services featured in new posters produced by the Department of the Public Relations & Publicity Officer, Southern Region

OFFICIAL NOTICES

The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive, or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

STORES SUPERINTENDENT, Assistant to, required by British Railway operating Bolivia. Preference given to candidates with Railway experience and knowledge of Spanish. Commencing salary £800/£900 p.a. according to experience and qualifications, plus free quarters, passages, allowances, etc. Write Box 7131, c/o CHARLES BARKER & SONS LTD., 31 Budge Row, London, E.C.4.

DRAUGHTSMEN, junior, with some experience in the preparation of engineering drawings for reproduction. Good lettering essential. London area. Five-day week. Write, stating age, experience and salary required, to Box 2, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

SENIOR ADMINISTRATIVE ASSISTANT required by NIGERIAN GOVERNMENT RAILWAY for tour of 12-24 months either (a) with prospect of pensionable employment at salary, etc., £1,290, rising to £1,440, a year, or (b) on temporary terms at salary, etc., £1,530, rising to £1,704, a year with gratuity at rate of £150 a year. Outfit allowance up to £60. Free passages for officer and wife and assistance towards cost of children's passages or their maintenance in this country. Liberal leave on full salary. Candidates of good education should have had Head or District Office experience in charge of works or general section and have a knowledge of rates and charges; goods and passenger station works and accounts, rules and regulations and block telegraphy, statistics of railway operation and administration; railway law of contracts, accidents, traffic claims, etc.; railway and road transport legislation; modern office methods and equipment. Applicants now serving with British Railways are eligible for secondment and should apply through their local officers. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M3B/34004/RA.

FOR SALE: Platelayers Bogies for 4 ft. 8½ in. track-gauge in excellent condition. M.E. ENGINEERING LIMITED, 457 Finchley Road, London, N.W.3. Telephone: Hampstead 7481/7482/7483.

FOR DISPOSAL. 20,000 Sleepers, 6 ft. long, 9 in. by 4½ in., excellent condition, from disused line.—Mayer, Newman & Co., Ltd., 15, Arundel Street, W.C.2.

N.E.R. HISTORY.—Twenty-Five Years of the North Eastern Railway, 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth. Cr. 8vo. 87 pages. 10*s.* 6*d.*—*The Railway Gazette*, 33 Tothill Street, London, S.W.1

BOUND VOLUMES.—We can arrange for readers' copies to be bound in full cloth at a charge of 25*s.* per volume, post free. Send your copies to the SUBSCRIPTION DEPARTMENT, Tothill Press Limited, 33, Tothill Street, London, S.W.1.

which is controlled from two electric signal boxes, can be co-ordinated to give the same effect as a central colour light signalbox, without having to scrap the existing plant, which is not yet life-expired. A visit was also made to the electric motive power depot.

Legbourne Road Station: Withdrawal of Passenger Service.—On and from December 7 the passenger service will be withdrawn from Legbourne Road Station, Eastern Region.

British Railways Record Weekend Coal Traffic.—British Railways made the biggest weekend clearance of deep-mine and opencast coal for seven months, 415,450 tons, during the 48 hr. ended 6 a.m. on November 2, bringing the week's total up to 3,310,230 tons. During the week ended October 24, 226,796 tons of iron and steel from the principal steelworks and 338,400 tons of iron ore were conveyed.

Institute of Transport Examinations: Partial Exemptions.—The Institute of Transport has reviewed and codified its regulations on exemptions from certain subjects of its Graduateship and Associate Membership examinations and these have been published in the form of a definitive list. Copies of the list can be obtained from the Secretary of the Institute of Transport, 80, Portland Place, London, W.1.

The Evolution of London Docks.—In his presidential address to the Institution of Civil Engineers on November 3, Mr. Wilfrid Shepherd-Barron traced the evolution of the London dock system. He showed how the existence of the Thames ballast stratum influenced the method of construction of the docks and also how the limitations of the India Docks led to the inception of those at Tilbury. The Royal Albert Dock, for which Portland cement was first used in concrete, was probably the most valuable work carried out in the port last century. The speaker made clear how the amalgamations of companies had facilitated the extensions and improvements.

Institute of Transport: Irish Branch.—Mr. F. Q. den Hollander, President, Netherlands Railways, when he addressed the Irish Branch of the Institute of Transport at the C.I.E. Club in Dublin, said that railways were indispensable for certain traffic. They were capable of operating in all weather conditions, and it was in the interests of the other three transport components—road, sea and air travel—that all should work together. Mr. T. C. Courtney, Chairman, C.I.E., who presided, introduced Mr. den Hollander and a vote of thanks was proposed by Mr. G. B. Howden, Chairman, G.N.R. Joint Board. Mr. F. Lemass, General Manager, C.I.E., and Mr. G. B. Gray, General Agent British Railways were among others present.

B.T.C. Commercial Policy.—In the account on page 500 of our October 30 issue, by the accidental omission of the word "no," Sir Reginald Wilson was reported as saying that travel agents made invidious distinctions between privately and publicly-owned transport; the words should read "travel agents doubtless made no invidious distinctions."

Conveyance of Motorcars through Mont Cenis Tunnel.—Motorcars are now conveyed through the Mont Cenis Tunnel between Modane and Bardonecchia on wagons forming special trains which perform a shuttle service every two hours between 8 a.m. and 6 p.m. The facility was first made available on October 25. East train can carry 20 cars. The system is similar to that used by the Swiss Federal Railways through the Gotthard and Simplon Tunnels.

Railway Convalescent Homes.—In their constant endeavour to keep the standard of the Railway Convalescent Homes as high as possible, the Trustees in the last 12 months have replaced all the bed mattresses at each of the ten homes, for both patients and staff, with Intalok hospital spring interior mattress, supplied by the makers of the Slumberland mattress. This has meant an expenditure on mattresses of £4,600. The Trustees feel that the money is well spent in view of the importance of well-sprung beds, more particularly to convalescents.

Scottish Region Station Closings.—British Railways, Scottish Region, announce that on and from November 2, 1953, Glasgow Green passenger station on the Glasgow Central Underground line will be closed. The decision to close was made after consultation with the local authorities and the Transport Users Consultative Committee for Scotland. Alternative rail facilities are available at Glasgow Cross and Bridgeton Cross passenger stations and frequent tram and 'bus services operate in the area. Passenger train parcels and other merchandise traffic which would have been dealt with at Glasgow Green station will be accepted for conveyance at Glasgow Cross or Bridgeton Cross stations, or will be collected on request. There will be no change in the present parcel delivery arrangement. A further announcement states that on and from November 2 Auchincruive Station, between Ayr and Annbank, will become a public siding for station-to-station traffic in full wagon loads, including livestock. Rail facilities are available at Ayr and Annbank Stations for the acceptance of passenger train and freight train traffic in less than wagon loads, and arrangements can be made for the collection. Similar traffic consigned to Auchincruive will be delivered from Ayr Station.

Provision of Additional Iron and Steel Production Facilities.—The Iron & Steel Board, after consultation with the industry, has published and circulated to iron and steel producers a notice requiring them to submit for the Board's consent under Section 6 of the Iron & Steel Act, 1953, proposals for modernisation or development which are estimated to cost more than £100,000 and fall within the scope of the Board's powers under that section.

Hyndland Branch Reopened.—The Hyndland branch, Glasgow, of the Scottish Region, was reopened on October 26. It was closed on September 29 because of an embankment fire. In the interval passenger trains to and from Hyndland, the only station on the branch, terminated at, and started from, Partick Hill Station. Considerable excavation of the embankment was necessary before the fire, which had been smouldering for some time, could be put out.

Increased Capital for Associated Electrical Industries Limited.—A resolution increasing the authorised capital and approving the capitalisation of reserves was passed by stock holders of Associated Electrical Industries Limited at an extraordinary general meeting held in London on October 8. The resolution provides for the increase of capital to £28,000,000 by the creation of 6,000,000 £1 ordinary shares and 4,000,000 £1 unclassified shares, and the capitalisation of £8,870,596 out of reserves to be issued to ordinary stockholders on the basis of one new £1 ordinary share, credited as fully paid, in respect of every £1 of existing ordinary stock.

Sale of Sections of Belfast & County Down Railway.—Hendron Bros. (Belfast) Limited, have purchased from the Ulster Transport Authority the sections of the Belfast & County Down Railway for which the Northern Ireland Ministry of Commerce issued an abandonment order in July. It is understood that eight or nine tenders were received. The sections which

were offered for sale were the lines between Ballynahinch and Ballynahinch Junction, between Downpatrick and Ardgless, part of the line from Comber to Newcastle and part of the Belfast-Donaghadee line. Work is proceeding on dismantling the lines.

Forthcoming Meetings

November 9 (*Mon.*).—Institute of Traffic Administration, Birmingham Centre, at 7.15 p.m., at the Crown Hotel, Corporation Street. Address on railway operation.

November 9 (*Mon.*).—Historical Model Railway Society, at the headquarters of the Stephenson Locomotive Society, 32, Russell Road, London, W.14. Talk on "Standard gauge G.W.R. locomotive practice, 1855-1885," by Mr. H. M. Le Fleming.

November 9 (*Mon.*).—Institute of Transport, York Graduate & Student Society, at the Railway Headquarters, York, at 7.30 p.m. Paper on "Claims and claims prevention," by Mr. T. Mason.

November 10 (*Tue.*).—Institute of Transport, Irish Section, at the C.I.E. Club, Dublin. Paper on "Charges as a factor in inland transport," by Mr. J. R. Pike.

November 10 (*Tue.*).—Institute of Transport, Midland Section, at the Queen's Hotel, Birmingham, at 7 for 7.30 p.m. Annual dinner and visit of President.

November 10 (*Tue.*).—Institute of Transport, Metropolitan Graduate & Student Society, at 80, Portland Place, London, W.1, at 6.15 p.m. Annual General Meeting, followed by paper "Diesel railcars—is there justification for their extensive use in Great Britain?" by Mr. B. Y. Williams.

November 10 (*Tue.*).—South Wales & Monmouthshire Railways Lecture & Debating Society, at the Angel Hotel, Westgate Street, Cardiff, at 6.30 p.m. Paper on "Developments in architecture and their relation to the railways," illustrated by lantern slides, by Mr. H. E. B. Cavenagh.

November 11 (*Wed.*).—Railway Service Christian Union, in the London Midland Region Clerical Dining Hall, Cardington Street, Euston, N.W.1, at 6.15 p.m. Twenty-seventh Birthday Meeting. Speakers: Mr. Hugh Redwood and Mr. J. Taylor Thompson.

November 11 (*Wed.*).—Stephenson Locomotive Society, at 32, Russell Road, Kensington, London, W.14, at 6.45 p.m. Paper on "Railway photography," illustrated by lantern slides, by Mr. C. R. L. Coles.

November 11 (*Wed.*).—Institute of Transport, Southern Section, at the Harbour Offices, Southampton, at 5 for 5.45 p.m. Paper on "Locomotive work in the Southern District, British Railways, Southern Region," by Mr. S. C. Townroe, Assistant District Motive Power Superintendent, Eastleigh.

November 11 (*Wed.*).—Railway Students' Association, at the London School of Economics & Political Science, Houghton Street, London, W.C.2, at 6.15 p.m. Paper on "Commercial economics in practice on the railways," by Mr. F. Grundy, Assistant Commercial Superintendent, British Railways, Western Region.

November 12 (*Thu.*).—Institute of Transport, Merseyside Section, at the Adelphi Hotel, Liverpool. Annual dinner and visit of Brig.-General Sir H. Osborne Mance, Past President.

November 12 (*Thu.*).—Public Transport Association, Annual Dinner at Grosvenor House, Park Lane, London, W.1.

November 12 (*Thu.*).—British Railways, Western Region, London Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. Paper on "Work of an engineering district," illustrated by lantern slides, by Mr. S. Stevens, District Engineer, Paddington.

November 12 (*Thu.*).—Institute of Welding, South London Branch, at 2 Savoy Hill, London, W.C.2, at 6.30 p.m. Film meeting, including latest film on welding of nickel alloys and the airomatic process.

November 12 (*Thu.*).—Cambridge University Railway Club, in Trinity College Lecture Rooms at 8.15 p.m. Paper on "Cambridge operating district," by Mr. J. W. Dedman.

November 13 (*Fri.*).—Institute of Transport, Northern Section, at the Royal Station Hotel, Newcastle, at 7 p.m. Papers by graduates and students.

November 13 (*Fri.*).—Society of Chemical Industry Corrosion Group, at the Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 9.45 a.m. A symposium on cathodic protection.

November 14 (*Sat.*).—Stephenson Locomotive Society, at the Geographical Society's Rooms, Deansgate, Manchester, at 6.15 p.m. A talk by the President, Mr. J. N. Maskelyne on "Some reminiscences."

November 17 (*Tue.*).—Stephenson Locomotive Society, Midland Area, in the B.T.H. Social Rooms, Holyhead Road, Coventry, at 7.30 p.m. Paper on "The 4-4-0s of the G.W.R.," by Mr. N. J. Allcock.

November 18 (*Wed.*).—British Railways, Southern Region, Lecture & Debating Society, at the Chapter House, St. Thomas Street, London Bridge, S.E.1, at 5.45 p.m. Paper on "Bananas—from plantation to consumer," illustrated by lantern slides, by Mr. E. R. Gooding.

November 18 (*Wed.*).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, at 5.30 p.m. Paper on "Development in locomotive testing," by Mr. S. O. Ell.

Railway Stock Market

There has been further strength and activity in stock markets, particularly in the industrial sections where many shares reached fresh high levels for the year. British Funds were also higher despite the restraining influence of the United Steel issue because of a wide range of Government stocks available at prices already fixed for exchange into United Steel shares. The general advance in industrial shares reflects the numerous further dividend increases announced which have emphasised that there is now a widespread tendency for dividend payments to be less conservative than hitherto. The higher payments by a number of leading companies, and also the fact that United Steel is raising its dividend from 8 per cent to 9 per cent, have tended to set a fashion of somewhat higher dividends.

Many companies have announced rather larger payments despite lower profits. The dividends are, of course, well covered and reflect a disposition to pay out a little more to shareholders in a reasonably good year. It is recognised, however, that financial results generally are likely to fluctuate much more than when shortages and controls were the dominating factors, and that higher dividends cannot necessarily be expected to be maintained in the future.

With industrial shares the dominating factor in markets, foreign rails attracted only moderate attention, but they were rather more active.

United of Havana stocks made higher prices in the hope of early pay-out news in view of the latest reports from Havana. The 4 per cent "A" and "B" stocks were both 93, the second income stock 37¼ and the consolidated stock 5¾.

Manila Railway stocks attracted more attention in the home that the British Government may ask for a speedy settlement in respect of the bonds of the Manila Railroad Company. Manila Railway "A" debentures were 86, the preference shares 9s. 3d. and the ordinary shares changed hands up to 4s. 7½d. but best levels have not been held this week.

Chilian Northern 5 per cent first debentures changed hands around 30. Cordoba Central "B" debentures at 56, while Dorada Railway ordinary stock remained more active around 56½. Nitrate Rails shares were 21s. 3d. and Taltal shares 14s. Guayaquil & Quito first bonds were 40. Brazil Railway bonds marked 6½.

Antofagasta stocks have been rather more active with the ordinary 8½, the preference 43½ and the 4 per cent debentures 50½.

Among Indian rails, Barsi were around 117 Nyasaland Railways 3½ per cent debentures transferred at 75, while Emu Bay 4½ per cent debentures changed hands actively around 58¼.

Canadian Pacifics have strengthened to $44\frac{1}{4}$ at the time of going to press, and the preference stock to £70, while the 4 per cent debentures were £85½. White Pass no par value shares were $26\frac{1}{4}$ and the convertible debentures £93½.

Among road transport shares, Lancashire Transport were 52s. 6d., Southdown 31s. 6d. and West Riding 25s. 9d. "ex" the share bonus. B.E.T. deferred 5s. units were active around 35s. on the view that the dividend may be raised to 40 per cent.

In engineering and kindred shares, T. W. Ward advanced to 81s. 3d. after publication of the full results and the chairman's annual statement. Tube Investments continued in favour on higher dividend hopes and have risen to 70s. 3d. John Brown rallied to 38s. Elsewhere Vickers eased to 49s. 6d. and Cammell Laird were also easier because of the possibility that both companies might have to raise additional capital to repurchase their former interest in the English Steel Corporation. Babcock & Wilcox held their advance to 72s. 3d., Thornycroft at 36s. 6d. remained under the influence of the financial results and maintained 15 per cent dividend while there was again demand for Guest Keen which were 53s. 4½d. British Aluminium rallied further to 39s. Ruston & Hornsby were 41s. 6d.

Beyer Peacock have been firm at 31s. 9d., Birmingham Carriage 30s. 3d., Hurst Nelson 42s. and North British Locomotive 14s. 3d. Vulcan Foundry strengthened to 24s. 3d., Gloucester Wagon 10s. shares were 15s. 6d., Wagon Repairs 5s. shares 15s. and Charles Roberts 5s. shares 18s. 3d.